



*American Pain Foundation*  
A United Voice of Hope and Power over Pain



## **A Reporter's Guide: *Covering Pain and Its Management***



*Pain is a complex perception that differs enormously from one person to another, even those with seemingly identical injuries or illnesses.*

# Introduction

*Everyone has experienced pain—whether it’s a pounding headache at the end of a long day, a throbbing toothache warning of a cavity or infection, an open wound or sprained ankle from a fall, or a stinging burn from touching a hot pan.*

*There are hundreds of pain syndromes, and pain is often a chief symptom of most chronic conditions, including cancer, diabetes, arthritis, fibromyalgia and a host of neurological disorders. For millions of Americans, pain persists, interfering with everyday activities and enjoyment of life. People living with chronic pain will often avoid certain movements or activities, fearful they will cause more injury or to avoid the anxiety of anticipated pain.*

Pain is complex and frequently misunderstood by the public. The issue of pain is riddled with myths and misperceptions, which makes the task of informing and educating people about pain and its management that much more challenging.

## SOME COMMON MISCONCEPTIONS ABOUT PAIN

- **Pain is “all in your head.”** Although this is partially true because we need our brains for the perception of pain, that does not mean pain is imaginary when the source of pain is not well understood. Pain is all too real to the person who lives with it day in and out.
- **Pain is just something one has to live with**—an inevitable part of a disease or condition. The fact is most pain can be relieved with proper pain management.
- **Pain is a natural part of growing older.** While pain is more common as we age because conditions that cause pain (e.g., arthritis, degenerative joint diseases, cancer, shingles, osteoporosis) are more frequent in older adults, it should not be something people have to struggle with.
- **The best judge of pain is the physician or nurse.** Studies have shown that there is little correlation between what a physician or nurse might “guess” about someone’s actual pain. The person with pain is the authority on the existence and severity of his/her pain. The self-report is most reliable indicator.
- **Seeking medical care for pain is a sign of weakness.** Pain carries a stigma, and many people hesitate talking about their pain and how it affects their daily life; they also don’t want to be considered a “bad” patient.
- **Use of strong pain medication leads to addiction.** Many people living with pain and even some healthcare providers falsely believe opioids (strong pain medicines) are universally addictive. Studies have shown that the risk of addiction is small when these medicines are properly prescribed and taken as directed. As with any medication, there are risks, but these risks can be managed.

# Key Reporting Challenges

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*A limited and informal survey of reporters, editors and producers revealed the following challenges when researching and covering the pain/pain management story:*

- Stigma of pain management, especially among legal and government regulatory bodies
- Hesitancy on the part of patients and providers to discuss opioids for legitimate chronic pain management given misperceptions about opioids and addiction
- Ability to find unbiased, credible information about pain
- Limited number of randomized controlled trials
- Finding pain patients who live with the type of pain and/or use the pain management approach being reported in the news story
- Accurately characterizing the pain experience given that every person experiences pain differently, even if they have a similar injury or illness

## THE UBIQUITOUS NATURE OF PAIN

Consider the following...

- Most Americans (80%) will suffer from back pain at some point in their lives.
- As we age, arthritis hinders the normally smooth sliding motion of our joints and connective tissues, resulting in stiffness and discomfort. Arthritis is the leading cause of disability in people over the age of 55.
- Pain associated with pediatric immunizations is a significant source of anxiety for children receiving the immunizations, and evidence suggests that the way children and parents cope can set the stage for future pain responses.
- Damage to or dysfunction of the central nervous system, due to stroke, multiple sclerosis, epilepsy, brain or spinal cord injuries or Parkinson's disease, also stimulates pain pathways.
- An estimated 30 to 50% of patients undergoing active treatment for cancer and 70% of those with advanced stages of the disease experience significant levels of pain and may be reluctant to discuss their pain with their doctors.

*Sources:* The American Academy of Physical Medicine and Rehabilitation, Arthritis Foundation, Mayday Fund, National Institute of Neurological Disorders and Stroke, National Cancer Institute.

# Purpose of This Guide

*The American Pain Foundation (APF) has developed this Guide as a primer on pain and pain management to help meet the informational needs of busy reporters, editors and producers covering the pain story. We know it's a complex topic, and hope you will find this to be a useful resource.*

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Be sure to visit the Newsroom section of the American Pain Foundation's web site at [www.painfoundation.org](http://www.painfoundation.org) to download additional copies and to check for posted updates and new Topic Briefs as they are added. Here you will also find recent news releases, press statements and background information on a wide variety of issues related to pain care.

## ABOUT THE AMERICAN PAIN FOUNDATION

APF's mission is to improve the quality of life for people with pain by:

- Raising public awareness;
- Providing practical information, education and support;
- Advocating to remove barriers and increase access to effective pain management; and,
- Promoting research.

Since its founding in 1997, the American Pain Foundation (APF) has been at the forefront of advocating for people living with a wide variety of pain conditions and their caregivers.

Our grassroots effort, *Power Over Pain Action Network*, is now active in nearly 40 states and is comprised of people living with pain, caregivers, healthcare

providers and advocates, who are working hard to call attention to the urgent need for positive changes in pain policy, practice and research investment.

## EXPERTS AVAILABLE FOR INTERVIEW

APF can connect reporters with a wide array of leading pain experts, as well as people living with pain and their caregivers. Whether you are working on a national or local story, we can help coordinate interviews about pain-specific conditions and other important issues related to pain (e.g., depression, coping skills, financial matters, disparities, treatment options).

If you are interested in interviewing someone at APF or need additional resources, please contact Tina Register, APF's communications manager, at (443) 690-4707 or [tregister@painfoundation.org](mailto:tregister@painfoundation.org).



# *A Primer on Pain and Its Management*

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## **BURDEN OF PAIN IN AMERICA: AN EVOLVING PUBLIC HEALTH CRISIS**

*Pain is a serious and costly public health issue. It affects more Americans than diabetes, heart disease and cancer combined, and is a leading cause of disability in the United States. Even though pain is one of the most common reasons patients consult a healthcare provider, it is often inadequately assessed and treated, resulting in needless suffering and poor patient outcomes.*

### **PAIN IS WOEFULLY UNDERTREATED FOR A VARIETY OF REASONS, INCLUDING:**

- Misconceptions about opioid addiction
- Lack of access to care
- Cultural norms and the stigma associated with admitting pain
- Limited or no professional training in pain management, which leaves healthcare providers ill-equipped to effectively respond to patients' reports of pain
- Concerns among physicians about prescribing pain medications for chronic pain, and fears of scrutiny by regulators or law enforcement
- Inadequate funding for pain research (less than 2% of NIH research budget was dedicated to pain studies)

Untreated or poorly managed pain can compromise every aspect of life, including a person's physical and mental health, social and intimate relations, ability to sleep and perform everyday tasks, work productivity and financial well being.

Chronic pain is not only emotionally and physically debilitating for patients, it also places a tremendous burden on families and caregivers, and contributes to excessive healthcare costs. The economic toll of chronic pain exceeds \$100 billion each year in the United States alone. As the 75 million Baby Boomers move toward retirement, the epidemic of untreated or undertreated pain is expected to continue.

*More than one-quarter of Americans (26%) age 20 years and over—or, an estimated 76.5 million people—report that they have had a problem with pain. This number does not account for acute pain.*

Source: National Center for Health Statistics, 2006.

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## PAIN BASICS

*The International Association for the Study of Pain defines pain as: An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.*

### COMMON PAIN CONDITIONS

- Headaches or migraine
- Back pain and sciatica
- Neck and shoulder pain
- Joint pain due to arthritis, bursitis, fibromyalgia or degenerative joint disease
- Muscle pain from overuse or strain, injury or fibromyalgia
- Post-surgical pain

*For definitions of these and other pain conditions, as well as common pain terms, please refer to the Pain A to Z listing at the back of this resource.*

At its best, pain is the body's natural alarm system, alerting us to injury (or further injury if already injured). It prompts us to stop a harmful behavior or seek medical attention. For example, lifting too much weight might result in a piercing pain in a person's back. Within moments of touching a hot surface, the fiery sensation of a burn warns us to quickly pull away. Worsening abdominal pain may be a sign of appendicitis or other serious infection. Pain also triggers inflammation, which directs healing cells to the area of injury. The experience of pain also beckons the injured person to rest, promoting healing.

At its worst, unrelenting pain robs people of their livelihood and well being. When pain persists, it is often a sign that the body's alert system has broken down. In other words, pain signals remain active. Over time, this heightened response may:

- Harm the nerves, blood vessels and organs
- Suppress immune function
- Result in excessive inflammation
- Delay healing

Since the brain remembers pain, pain may be imprinted into the nerve tissue and continue to send pain sensations even in the absence of painful stimuli.

### ***Chronic Pain-Brain Connection***

New research is unraveling how chronic activation of the biological pathways transmitting pain is associated with structural and chemical changes in the brain. A recent study suggests that constant pain signals can result in mental rewiring that affects the frontal cortex, the area of the brain mainly associated with emotion and attention. According to researchers, this provides the first objective proof of brain disturbances in patients with chronic pain that is unrelated to the sensation of physical pain.

## ACUTE VS. CHRONIC PAIN

*There are two main types of pain: acute and chronic.*

	ACUTE PAIN	CHRONIC PAIN
<b>Onset</b>	Usually sudden	Sudden or gradual development
<b>Cause</b>	Typically linked to an event, such as an injury or disease	Contributing factors are less certain
<b>Duration</b>	Temporary (up to 3 months)	Persistent (beyond usual healing time or longer than 3 months)
<b>Pain Identification</b>	Painful areas are generally well identified	Painful areas are less easily differentiated
<b>Pattern</b>	Self-limiting or readily corrected	Continuous or intermittent; intensity may vary or remain constant
<b>Course</b>	Pain usually lessens over time	Pain usually increases over time
<b>Response</b>	Stress response may be present (increased heart and/or breathing rate, increase in blood pressure)	Stress response often absent
<b>Prognosis</b>	Total relief typically possible	Total relief often impossible

*Adapted from:* McCance K, Huether SE, eds. Pathophysiology: the biologic basis for disease in adults and children. 5th ed. New York, NY: Elsevier, 2006:447-489.

**Acute Pain** occurs suddenly due to illness, inflammation, injury or surgery. It has a short duration that subsides when the injured tissue heals. The cause of the pain can usually be diagnosed and treated.

**Chronic Pain** is pain that lasts long enough (after normal healing or for at least three months), or is intense enough, to affect a person's normal activities and well-being. Failure to treat acute pain promptly and appropriately at the time of injury, during initial medical and surgical care or at the time of transition to community-based care, contributes to the development of chronic pain syndromes.

With chronic pain, pain signals may remain active in the nervous system for weeks, months or even years. Unlike acute pain, chronic pain has no value or benefit; it is a disease in its own right. It can also be especially challenging to treat.





## PAIN ASSESSMENT

Timely access to quality pain management is the best way to minimize the suffering and disability often associated with undertreated pain and to avoid additional problems down the road. Science is revealing the role of unrelieved acute pain in the development of chronic, persistent pain.

Most hospitals, nursing homes and other healthcare facilities are now required to assess and treat pain. To correctly diagnose pain, healthcare professional will:

- Perform a thorough physical exam
- Complete a pain assessment
- Ask detailed questions about the patient's medical history and lifestyle
- Order blood work, X-rays, electrical tests to detect nerve damage, or other diagnostic and laboratory tests

Pain is a subjective experience, and it is critical for healthcare professionals to have a complete picture of the patient's pain history. He/she may ask about seven characteristics of pain to help LOCATE the pain and make the correct diagnosis.

- L** the exact Location of the pain and whether it travels to other body parts
- O** Other associated symptoms such as nausea, numbness, or weakness
- C** The Character of the pain, whether it's throbbing, sharp, dull or burning
- A** Aggravating or Alleviating factors. What makes the pain better or worse?
- T** the Timing of the pain, how long it lasts, is it constant or intermittent?
- E** the Environment where the pain occurs, for example, while working or at home

The type of pain someone is experiencing is often a clue to its cause; for example, chronic pain that is burning or tingling is often the result of nerve disease (neuropathy).

## EFFECTS OF UNRELIEVED CHRONIC PAIN ON PHYSICAL AND MENTAL HEALTH

If untreated, pain can have serious physiological, psychological and social consequences. It can:

- Limit the ability to work, sleep, exercise or perform everyday tasks (for example, dressing, going to the grocery store)
- Reduce mobility
- Impair strength
- Diminish appetite
- Make it difficult to recover from an injury or fight infection by weakening the immune system
- Aggravate other health problems
- Lead to depression and/or anxiety, which often worsen pain sensations
- Make it difficult to concentrate or reason
- Place added strain on relationships and interfere with intimacy
- Result in a loss of self-esteem and independence

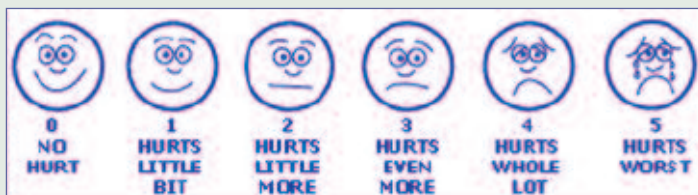
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Pain scales are additional tools available to help patients describe the intensity of their pain. These assessment tools help healthcare professionals diagnose or measure a patient's level of pain. These include numeric, verbal or visual scales.

With **numerical scales**, patients use numbers from 0-10 (0 being no pain and 10 being the worst pain ever) to rate the intensity of the pain.

**Verbal scales** contain commonly used words such as “mild,” “moderate” and “severe” to help patient’s describe the severity of the pain.

**Visual scales** use aids like pictures of facial expressions, colors or gaming objects, such as poker chips, to help explain the severity of pain. One type, the Wong Baker Faces Pain Rating Scale, shows six different facial expressions from happy (no hurt) to agony (hurts the worst) to help show healthcare professionals how much pain a patient feels. Body diagrams may also be used to help pinpoint where the pain occurs.



From Hockenberry MJ, Wilson D, Winkelstein ML: *Wong's Essentials of Pediatric Nursing*, ed. 7, St. Louis, 2005, p. 1259. Used with permission. Copyright, Mosby.

**Multidimensional pain assessment tools**, such as the McGill Pain Questionnaire (MPQ) and the Brief Pain Inventory (BPI), have been developed to quantify different aspects of pain, including location and quality of pain and its effect on mood and function. However, these take longer to administer than the simpler scales and some patients who are cognitively impaired or poorly educated may find them difficult to complete. They are generally used in pain research, but can be adapted for clinical use if appropriate and valuable.

Our processing of pain is complex. A basic explanation is that the pain signals of acute pain are initiated when receptors on the skin, within an organ, tissue or nerve are triggered by injury or disease, known or unknown. A series of events follow: an electrical impulse, or pain message, is generated that is then carried on nerve fibers to the spinal cord. The spinal cord transmits the pain signal to various levels of the brain for interpretation and response. At any time during the transport of pain messaging, these noxious signals can be blocked, enhanced or modified. Signaling associated with chronic pain is much more complicated than acute pain as science is beginning to show.

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## TREATING PAIN

Successful pain management aims to:

- 1) lessen the pain
- 2) improve functioning and
- 3) enhance quality of life

Pain treatment needs to be individualized and, in most cases, requires a team of providers, as well as social support from family and friends. Most often, an integrative approach is needed to provide pain relief, which includes a combination of treatment options; this also encourages patients to actively participate in self-care. Treatment options may include:

- Medication (anti-inflammatory medicines, opioids or other classes of drugs)
- Psychosocial interventions (cognitive-behavioral counseling, guided imagery)
- Rehabilitative approaches (exercise, application of heat/cold, myofascial release, occupational therapy, if needed)
- Complementary alternative medicine (massage, acupuncture, hypnosis)
- Injection or infusion therapies
- Implantable devices and surgical procedures

Research shows that pain can affect patients' emotions and behavior and interfere with the ability to concentrate, manage everyday tasks and cope with stress. Likewise, stress and emotional pressures can make pain worse, provoking "flare ups" and contributing to alterations in the immune system response. These relationships are not always easily recognized or readily fixed by medical procedures or medications alone.

New treatments under investigation are aimed at the physical, psychological and environmental components of chronic pain. Research is also examining the role of genetic predisposition and the immune system in mitigating pain signals.

For a detailed description of the different treatment modalities for managing pain, please refer to the America Pain Foundation's *Treatment Options: A Guide for People Living with Pain*.

### MEDICATIONS & PAIN MANAGEMENT

Medications play an important role in the treatment of pain. There are three major classes of medications for pain control:

**Non-opioids:** non-steroidal anti-inflammatory drugs (NSAIDs) and acetaminophen

**Opioids:** morphine, oxycodone, methadone, codeine and fentanyl are examples

**Adjuvant analgesics:** a loose term referring to the many medications originally used to treat conditions other than pain, but now also used to help relieve specific pain problems; examples include some antidepressants and anticonvulsants. Some of these drugs have been shown to work well for specific types of pain.

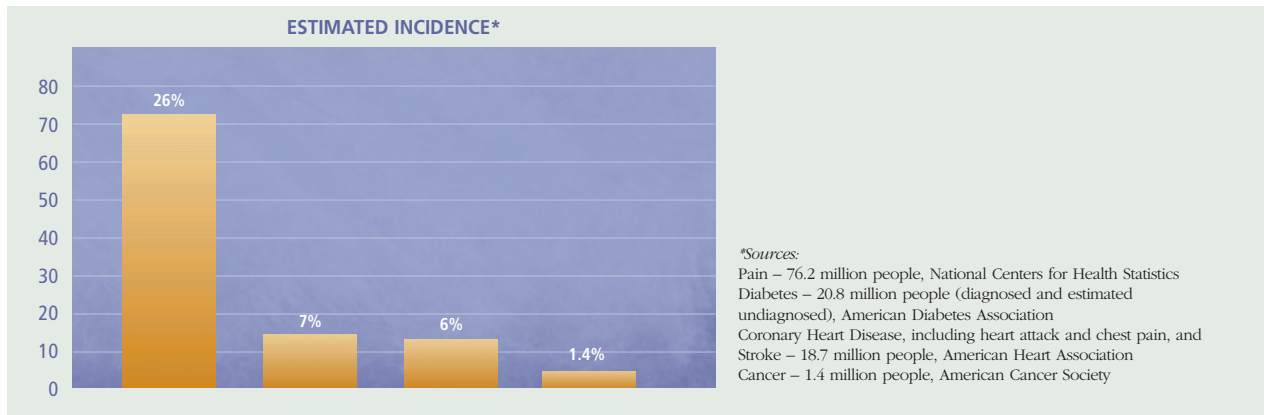
Drugs that have no direct pain-relieving properties may also be prescribed as part of a pain management plan. These include medications to treat insomnia, anxiety, depression and muscle spasms, and can help a great deal in the overall management of pain in some persons.

# Pain Facts & Stats

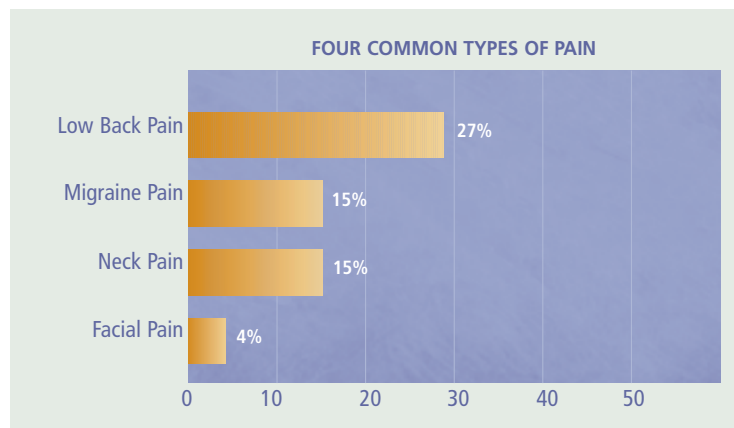
## PREVALENCE OF PAIN

*Pain is a serious and costly public health problem.*

- A hallmark of many chronic conditions, pain affects more Americans than diabetes, heart disease and cancer combined.



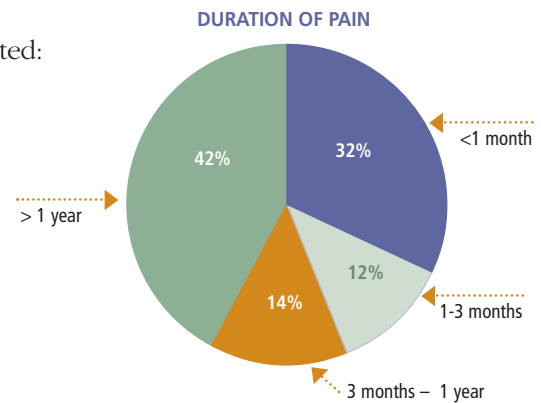
- More than one-quarter of Americans (26%) age 20 years and over—or, an estimated 76.5 million Americans—reported that they have had a problem with pain of any sort that persisted for more than 24 hours in duration. This number does not account for acute pain.<sup>1</sup>
- About one-third of people who report pain indicate that their pain is “disabling,” defined as both severe and having a high impact on functions of daily life.<sup>2</sup>
- More women (27.1%) than men (24.4%) report that they are in pain.<sup>1</sup>
- Non-Hispanic white adults reported pain more often than adults of other races and ethnicities (27.8% vs. 22.1% Black only or 15.3% Mexican).<sup>1</sup>
- Adults living in families with income less than twice the poverty level reported pain more often than higher income adult.<sup>1</sup>
- When asked about four common types of pain, respondents of a National Institute of Health Statistics survey indicated that low back pain was the most common (27%), followed by severe headache or migraine pain (15%), neck pain (15%) and facial ache or pain (4%).<sup>1</sup>



## DURATION OF PAIN

■ Adults 20 years of age and over who report pain said that it lasted:

- Less than one month – 32%
- One to three months – 12%
- Three months to one year – 14%
- Longer than one year – 42%



## ECONOMIC AND WORKPLACE BURDEN OF PAIN

- The annual cost of chronic pain in the United States, including healthcare expenses, lost income, and lost productivity, is estimated to be \$100 billion.<sup>3</sup> However, more recent studies have indicated that costs associated with low back pain alone are an estimated \$85.9 billion.<sup>4</sup> The total cost of arthritis—the nation’s leading cause of disability—is estimated at \$128 billion.<sup>5</sup>
- Undertreated pain drives up the cost of healthcare because it extends lengths of stay in hospitals, increases emergency room visits and results in unplanned clinic visits.
- Pain is the second leading cause of medically related work absenteeism, resulting in more than 50 million lost workdays each year.<sup>6</sup>
- Lost productive time due to headache, arthritis, back pain and other musculoskeletal conditions is estimated to cost \$61.2 billion per year.<sup>7</sup>
  - Headache was the most common (5.4%) pain condition resulting in lost productive time. It was followed by back pain (3.2%), arthritis pain (2.0%), and other musculoskeletal pain (2.0%).
  - Most (76%) of the pain-related lost productive time was in the form of reduced performance occurring while the employees were at work, rather than absenteeism.
  - Workers who experienced lost productive time from a pain condition lost an average of 4.6 hours per week.

### MUCH WORK REMAINS

- Currently, less than 2% of the NIH research budget is dedicated to pain.
- More than half of all hospitalized patients experienced pain in the last days of their lives and although therapies are present to alleviate most pain for those dying of cancer, research shows that 50-75% of patients die in moderate to severe pain.<sup>8</sup>

For more statistics and research findings, see our **Topic Briefs** on:

- Special Considerations: Pain in Specific Populations
- Disparities and Pain Management
- Integrative Medicine: Non-Drug Treatment Options for Pain Management
- Chronic Pain and Opioid Treatment

Be sure to visit the American Pain Foundation at [www.painfoundation.org](http://www.painfoundation.org) for posted updates and additional Topic Briefs.

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*"The moral test of a society is how that society treats those who are in the dawn of life...the children; those who are in the twilight of life...the elderly; and those who are in the shadows of life...the sick, the needy and the handicapped."*

*—Hubert Humphrey*



## SPECIAL CONSIDERATIONS: PAIN IN SPECIFIC POPULATIONS

Although pain is a significant problem among all Americans, certain populations are more susceptible to and at greater risk for undertreatment, including children, minorities and those with advanced, life-limiting medical illness. Studies conducted in emergency departments suggest that women receive less attention in response to reports of severe pain than men. As well, active duty military and veterans tend to experience pain differently and present greater challenges to achieving optimal pain relief.

In order to provide the most effective pain care possible and minimize pain-related morbidity, characteristics of vulnerable populations must be taken into consideration when performing pain assessment and implementing treatment plans. Healthcare professionals must also become aware of their own biases and understand that, regardless of demographic or social position, every individual with pain requires evaluation and treatment tailored to his or her specific clinical circumstances.

### Children and Pain

Every child will experience pain at one time or another, whether it's from everyday bumps and bruises, or more chronic conditions such as headaches, gastrointestinal problems or diabetes. In fact, research shows that as many as 40% of children and adolescents complain of pain that occurs at least once weekly, and chronic pain affects at least 15 to 20% of children.<sup>1</sup> And pediatric pain stems from a wide range of chronic conditions:

- Each year, 1.5 million children have surgery, and many receive inadequate pain relief. In 20% of cases, the pain becomes chronic.<sup>2</sup>
- Of children aged 5 to 17 years, 20% suffer headaches.<sup>2</sup>
- More than one-third of children complain of abdominal pain lasting two weeks or longer.<sup>3</sup>
- Juvenile arthritis, which causes joint inflammation and aches, affects nearly 250,000 people under the age of 16 years.<sup>4</sup>
- By 2010, 1 in 1,000 U.S. children will be a survivor of childhood cancer and may have to deal with late and long-term effects of treatment (e.g., chronic fatigue and pain syndromes, nerve damage).<sup>2</sup>

- Recent evidence reveals reduced pain sensitivity is a common feature of children with autism and Asperger's syndrome.<sup>2</sup>
- Musculoskeletal pain can result from "growing pains," a normal occurrence in about 25 to 40% of children.<sup>5</sup>

#### COMMON CAUSES OF PAIN IN CHILDREN

- Scrapes and bruises
- Needlestick pain from immunizations (most children receive up to 24 immunizations by their 2nd birthday)
- Sports injuries (e.g., sprains, concussion, fractures)
- Chronic illnesses (e.g., sickle cell disease, Type I diabetes)
- Headaches
- Abdominal pain (e.g., ulcerative colitis)

According to the American Medical Association, children and infants are at increased risk of inadequate pain management, with age-related factors playing a major role. Physical and psychological changes that occur during childhood development can make understanding and managing pain in children significantly more complicated than treating pain in adults.

Many things affect the way a child experiences, communicates and responds to pain, including:

- Their age
- Their beliefs and understanding of what is causing the pain
- Their ability to cope
- Their activity and anxiety levels
- Previous experiences with pain and how they learned to respond
- Support from parents and siblings
  - Preliminary data suggest that a mother's anxiety may be transmitted more strongly to her daughters than her sons, resulting in increased anxiety and pain in girls, but not boys.<sup>6</sup>

If pain is not addressed and treated early on, it can greatly impact a child's quality of life by interfering with mood, sleep, appetite, school attendance, academic performance, and participation in sports and other extracurricular activities. Further, if unrelieved, childhood pain can enhance a child's vulnerability to pain later in life.<sup>7</sup> It is essential that healthcare providers begin to approach pediatric pain so that appropriate strategies can be devised to target and reduce

children's distress and pain-related disability.

Unaddressed pain can also result in significant financial stress for families who not only have to cover healthcare expenses, but who may also have to miss work to care for a sick child.<sup>8</sup>

Inadequate prevention and relief of pediatric pain are still widespread. Many obstacles exist to providing appropriate pain care to children and adolescents:<sup>10</sup>

- Beliefs and attitudes about the experience of pediatric pain.
- General lack of understanding about the best course of action for treating children in pain.
- Belief that pain should be treated less aggressively in children than adults.
- Pediatric pain management research has not been effectively translated into routine clinical practice.
- Pain in children with disabilities or other special health care needs may be more difficult to assess.

## MYTHS AND TRUTHS ABOUT PAIN IN CHILDREN

<b>MYTH:</b>	Children who are playing or sleeping must not be in pain.
<b>TRUTH:</b>	Children cope with pain by distracting themselves, often through play. Sleep may also be a coping mechanism, and/or because they are exhausted.
<b>MYTH:</b>	Young infants do not feel pain because their nervous systems are immature and unable to perceive and experience pain the way adults do.
<b>TRUTH:</b>	Decades ago it was believed that a newborn couldn't feel pain, and surgery was routinely performed on infants without anesthetic. Today, we know that the central nervous system of a 26-week-old fetus has the capability of experiencing pain. There is strong evidence that children experience increasing anxiety and perception of pain with multiple procedures or painful stimuli. <sup>8</sup>
<b>MYTH:</b>	Children can easily become addicted to pain medications.
<b>TRUTH:</b>	Less than 1% of children treated with opioids become addicted. <sup>9</sup>
<b>MYTH:</b>	Children cannot effectively communicate their pain; it is difficult to know when they have pain.
<b>TRUTH:</b>	Children don't communicate, respond to, or feel pain the same way adults do, so it's difficult for health professionals and parents to understand what they are experiencing. But, it is very real and not something they easily forget about. There are many tools available to assess pain in children. Adults need to recognize how children of different ages express pain in both behaviors and words.
<b>MYTH:</b>	Children will tell adults when they are having pain.
<b>TRUTH:</b>	Children may not have the words to express pain (e.g., hurt, "ouch") or know to point to where it hurts. They may also be afraid of the consequences (e.g., extra visits to the pediatrician, shots, medicine).

## Potential barriers to the effective treatment of pain in children<sup>10</sup>

- The myth that children, especially infants, do not feel pain the way adults do;
- Lack of routine assessment for the presence of pain in children;
- The idea that treating pediatric pain takes too much time and effort;
- Fears of adverse effects of analgesic medications, including respiratory depression and addiction;
- Differing personal values and beliefs of healthcare professionals about the meaning and value of pain in the development of the child (e.g., the belief that pain builds character).

## WEB RESOURCES

**American Pain Society**  
[www.ampainsoc.org](http://www.ampainsoc.org)

**National Children's Pain Center**  
[www.pediatricpain.org/ncpc.php](http://www.pediatricpain.org/ncpc.php)

**Pediatric Pain Sourcebook**  
<http://painsourcebook.ca/>

**UCLA Pediatric Pain Program**  
[www.mattel.ucla.edu/pedspain/home.php](http://www.mattel.ucla.edu/pedspain/home.php)

**American Academy of Pediatrics**  
<http://www.aap.org>

## Gender and Pain

Although it has long been thought that women and men have similar pain experiences, recent research reveals significant differences in the way male and female brains process pain,<sup>1</sup> as well as in women's expression of pain and their responsiveness to analgesics and pain stimulus.<sup>2,3</sup>

Historically, women have been categorized as being emotional and overly sensitive; often influencing the way physicians assessed and managed their pain.<sup>4</sup> Even though research now shows that chronic pain conditions are generally more prevalent among women, they continue to be treated less aggressively for their pain than men.<sup>5,6</sup> And while women are more likely than men to seek treatment for their pain, they are less likely to receive it.<sup>7</sup>

Women report pain more often than men do and in more body regions, and they also tend to have more severe, recurrent and persistent pain, as well as a reduced pain threshold when compared with men.<sup>3</sup> However, despite their increased pain burden, women reportedly cope with pain better than men, possibly due to the fact that they experience pain more often throughout the course of their lives (e.g., menstruation, pregnancy and child birth, and other health issues specific to women).<sup>3</sup>

Female hormones are also likely to play a role in pain perception. Some pain conditions like migraine tend to vary with a woman's menstrual cycle, and many of the observed gender differences in pain appear to diminish following the reproductive years.<sup>8</sup>

### Hormones May Influence Pain Experience

- Estrogen administration in women and in men can increase the incidence of chronic pain conditions.<sup>9,10</sup>
- Variations in women's estrogen levels, like those that occur during the menstrual cycle or during pregnancy, may regulate the brain's natural ability to suppress pain.<sup>11</sup>
- Some pain conditions such as migraine and fibromyalgia tend to fluctuate with a woman's menstrual cycle.
- Observed gender differences in pain appear to diminish following menopause.

Additionally, cultural conditioning may impact the expression of pain among women and men. As children, girls are more likely to be permitted to express pain and show emotion than boys, and attitudes about the social acceptability of gender and pain often carry into adulthood.<sup>3</sup>

### Potential Sources of Gender Differences in Pain

*Biological factors including:*

- sex hormones
- genetics
- anatomical differences

*Psychosocial influences including:*

- emotion (e.g., anxiety, depression)
- coping strategies
- gender roles
- cultural conditioning
- health behaviors
- use of healthcare services

As advances in brain imaging technology provide further insights into gender variations in the experience of pain, it is becoming evident that different pain experiences among men and women will call for different approaches to pain management.

Ongoing research is essential to achieve:

- A better understanding of the biological and psychosocial factors that influence gender differences in pain
- A greater appreciation of the different health needs of men and women
- More effective and targeted pain treatments for women

### PAIN DISORDERS WITH HIGHER PREVALENCE IN WOMEN

- Migraine
- Irritable bowel syndrome
- Fibromyalgia
- Chronic pelvic pain
- Interstitial cystitis
- Temporomandibular joint disorder (TMJ)
- Breast pain (mastalgia)
- Autoimmune disorders (e.g. Lupus and Chronic Fatigue Syndrome)
- Rheumatoid arthritis
- Osteoarthritis

### WEB RESOURCES

**International Association for the Study of Pain: Real Women, Real Pain**  
[www.iasp-pain.org](http://www.iasp-pain.org)

**National Institutes of Health: Gender & Pain**  
<http://painconsortium.nih.gov/genderandpain/summary.htm>

**National Women's Health Resource Center**  
[www.healthywomen.org/](http://www.healthywomen.org/)

**Society for Neuroscience: Gender & Pain**  
[www.sfn.org/index.cfm?pagename=brainBriefings\\_gender\\_and\\_pain](http://www.sfn.org/index.cfm?pagename=brainBriefings_gender_and_pain)

## Older Adults and Pain

As we age, pain becomes a more common problem due to the high prevalence of chronic and progressive pain-producing conditions associated with aging. It is estimated that up to 50% of older persons living in the community have pain that interferes with normal function, and 59 to 80% of nursing home residents experience persistent pain.<sup>1,2</sup> Alarming, being older than 70 is the leading risk factor

for inadequate pain management.<sup>3</sup>

Diagnosing and treating pain in older adults can be challenging. Those 65 and older often present with multiple medical and nutritional problems, take multiple medications and have many potential sources of pain. Older persons with dementia or communication problems are at even greater risk of undertreatment of pain due to difficulties

communicating their pain.<sup>4</sup> Use of certain medications in older patients becomes problematic because of physiological changes.<sup>5</sup>

The most common cause of persistent pain in older adults is musculoskeletal in nature, typically from osteoarthritis or other bone, joint and spine disorders. According to the Arthritis Foundation, arthritis affects up to 80% of older adults, who report being fearful of recurring pain and disability. But the predilection for painful conditions does not mean that older adults need to live with uncontrolled pain. Quite the opposite; older patients can be effectively treated, and in so doing, pain-related morbidity—and even premature mortality—can and should be obviated.

### COMMON PAIN CONDITIONS IN OLDER ADULTS

- Arthritis
- Lower back and neck pain; vertebral compression fractures from osteoporosis
- Abdominal pain (e.g., gallstones, bowel obstruction, peptic ulcer disease, abdominal aortic aneurysm)
- Cancer-related pain (symptom of disease or effect of nerve damage from treatments)
- Neuropathic pain due to diabetes, herpes zoster ("shingles"), kidney disease or other medical problems
- Muscle cramps, restless leg pain, itchy skin and sores due to circulatory problems or vitamin D deficiency
- Fibromyalgia
- Complex Regional Pain Syndrome (CRPS), which develops after an illness or injury and often affects the leg, arm, foot or hand
- Injuries, especially from falls



### WEB RESOURCES

#### **Handbook of Pain Relief in Older Adults — An Evidence-Based Approach**

By Gloth III, F. Michael

<http://www.humanapress.com/Product.pasp?txtCatalog=HumanaBooks&txtProductID=1-58829-217-7>

#### **American Medical Association Assessing and Treating Pain in Older Adults**

[http://www.ama-cmeonline.com/pain\\_mgmt/module05/index.htm](http://www.ama-cmeonline.com/pain_mgmt/module05/index.htm)

#### **American Geriatrics Society Foundation The Management of Persistent Pain: Resources for Older Adults and Caregivers**

[http://www.healthinaging.org/public\\_education/pain](http://www.healthinaging.org/public_education/pain)



## End-of-Life and Pain

Pain control is one of the most challenging aspects of end-of-life care.<sup>1</sup> Terminal illness is often accompanied by severe pain, and a significant number of patients suffer needlessly at the end-of-life. While the goal of end-of-life care should be making patients more comfortable, the health care system has been designed to take a curative approach to disease, rather than focusing on symptom relief.<sup>2</sup> Hospital research reveals that healthcare providers continue to inadequately treat pain, and tend to under-medicate terminal pain.

Patients at end-of-life may have their pain undertreated for variety of reasons, including a lack of knowledgeable and experienced physicians and myths about addiction to pain medication, leading unnecessarily to patient and family suffering.<sup>3</sup>

Despite advances in research on end-of-life pain treatment, physicians remain influenced by social and legal concerns, as well as misconceptions about medications including addiction, overdose, lasting side effects and diminished physical capacity.<sup>5</sup> Patients and their families may also hesitate to begin using pain medications as they often associate such treatment with imminent death, thereby allowing patient suffering to worsen and continue.<sup>4</sup>

However, thorough and ongoing pain assessment, paired with well-

designed and aggressive medication plans, as well as counseling for patients and their families can have a significant impact on pain relief and side effects among dying patients.<sup>4,5</sup>

### IN DYING PATIENTS, PAIN MAY BE EXACERBATED BY MANY OTHER SYMPTOMS INCLUDING:

- Dry mouth
- Nausea
- Water retention and swelling
- Lack of appetite
- Shortness of breath
- Mental distress and anxiety caused by fear or denial of impending death

Effective pain management at the end-of-life requires addressing the total pain experience, including physical causes, as well as interpersonal and spiritual pain.<sup>3,4</sup>

Pain associated with terminal illness often requires special treatment that can be best provided by hospice and palliative care programs available in many medical facilities. Hospice focuses on relieving symptoms and supporting patients who are nearing the end of their life, while palliative care is designed to provide comfort and pain relief at any time during a person's illness.<sup>7</sup> The goal of both programs is to alleviate suffering and ultimately assist patients in achieving a pain-free and dignified death.

*“Suicidal wishes in patients with advanced disease are closely linked to unrelieved pain and to mood alterations such as depression and anxiety, which like pain, frequently respond to clinician treatment if the clinician identifies and addresses them.”<sup>2,6</sup>*

### Essential Components of End-of-Life Care<sup>8</sup>

- Continual assessment and management of pain and other physical symptoms
- Assessment and management of psychological and spiritual needs
- Helping patients identify personal goals for pain treatment and end-of-life care
- Assessment of the patient's support system

### WEB RESOURCES

**American Academy of Family Physicians: Challenges in Pain Management at the End of Life**

[www.aafp.org/afp/20011001/1227.html](http://www.aafp.org/afp/20011001/1227.html)

**American Pain Society: Treatment of Pain at the End of Life**

[www.ampainsoc.org/advocacy/treatment.htm](http://www.ampainsoc.org/advocacy/treatment.htm)

**Discovery Health Center: End of Life Q&A with Dr. Scott Fishman**

<http://health.discovery.com/centers/pain/endoflife/endoflife.html>

**National Hospice and Palliative Care Organization**

[www.nhpco.org/i4a/pages/index.cfm?pageid=3254](http://www.nhpco.org/i4a/pages/index.cfm?pageid=3254)

*“When someone is dying, time is a luxury and wait-and-see is not an option. What matters most in the final days is that patients are free of crippling pain and unbearable suffering so that they can finish their lives in ways that bring comfort, peace, and completion. Concerns about lasting side effects or diminished physical capacity from months of using a drug become secondary to making a patient comfortable. No one has to die in pain.”*

— Dr. Scott Fishman

## Military/Veterans and Pain<sup>1</sup>

Pain is a major issue among military personnel and veterans, who are at heightened risk for injury and combat wounds. Although today's body armor and rapid evacuation to medical care is saving lives, there are more maimed and shattered limbs than ever before, with instances of amputation double previous rates. Hundreds of thousands of returning veterans will seek medical care and claim disability compensation for a wide variety of injuries and health problems they endured during their tours of duty. It is estimated that the U.S. will be paying the cost of related medical care and disability claims for the next 40 years.

Veterans are more likely to experience psychological distress and other medical conditions, including post traumatic stress disorder, depression, amputations, traumatic brain injuries, substance abuse and other injuries, which further complicate effective pain management.

### COMMON PAIN CONDITIONS AMONG MILITARY MEMBERS

**Post traumatic stress disorder (PTSD)** commonly affects soldiers returning from war, and is triggered by exposure to a situation or event that is or could be perceived as highly threatening to a person's life or those around him/her. PTSD may not emerge for years after the initial trauma. Chronic pain symptoms and PTSD frequently co-occur and may intensify an individual's experience of both conditions. Together, they result in fear, avoidance behaviors, anxiety and feelings of isolation.

**Amputations** have long been a tragic, unavoidable consequence of combat injury—"one of the most visible and enduring reminders of the cost of war," according to the Amputee Coalition of America. While there have been major advances in medicine, prosthetics and technologies that allow amputees to lead more independent lives, most of these patients continue to need specialized long-term or lifelong support. Managing wound, post-operative, phantom and stump pain is important to reduce suffering and improve quality of life.

A **traumatic brain injury (TBI)** is a blow or jolt to the head or a penetrating head injury that disrupts the function of the brain and is a major cause of life long disability and death. Managing pain in veterans with TBIs may be complicated by memory lapses affecting medication management, difficulty organizing and following complicated and sometimes even simple pain management regimens, and difficulty learning new coping skills. Rehabilitation should incorporate efforts to relieve associated pain.

Veterans have significantly worse pain than the general public, and while military medical care is among the best in the world, there are still long-term problems and challenges with managing disability and chronic pain.

Military culture may also present a significant barrier to appropriate patient care. The persisting stigma around pain and pain treatment is particularly pronounced in the military, and pain is often perceived as a sign of weakness leading many individuals to choose to suffer in silence. Seeking mental health care for PTSD and depression, which so often accompany pain is important; pain is best managed when depression and PTSD are treated simultaneously.

A recent analysis found that the Veterans Health Administration (VHA) is already overwhelmed by the sheer number of returning veterans and the seriousness of their health care needs. Without increased staffing and funding for veterans medical care, it will not be able to provide quality care in a timely fashion.



## Military/Veterans and Pain<sup>1</sup>

**Barriers to optimal pain management among veterans and military personnel may include fears about:**

- No longer being physically capable of fulfilling their duties
- Being discharged and no longer having a sense of purpose
- Letting down or losing the respect of their peers
- Becoming addicted to pain medications
- Experiencing personality changes or problems with sexual relations due to pain medications
- Losing their benefits/pension if they acknowledge a pain condition

### THE UNITED STATES CONGRESS HAS STATED THE FOLLOWING:

- (1) Acute and chronic pain are prevalent conditions among active duty and retired military personnel.
- (2) Characteristics of modern warfare, including the use of improvised explosive devices, produce substantial numbers of battlefield casualties with significant damage to both the central and peripheral nervous systems.
- (3) The successes of military health care both on and off the battlefield result in high survival rates of severely injured military personnel who will be afflicted with significant pain disorders on either an acute or chronic basis.
- (4) Failure to treat acute pain promptly and appropriately at the time of injury, during initial medical and surgical care, and at the time of transition to community-based care, contributes to the development of long-term chronic pain syndromes, in some cases accompanied by long-term mental health and substance abuse disorders.
- (5) Pain is a leading cause of short- and long-term disability among military personnel.
- (6) The military health care systems have implemented important pain care programs at some facilities and in some areas, but comprehensive pain care is not consistently provided on a uniform basis throughout the systems to all patients in need of such care.
- (7) Inconsistent and ineffective pain care leads to pain-related impairments, occupational disability, and medical and mental complications with long-term costs for the military health and disability systems, and for society at large.
- (8) Research, diagnosis, treatment, and management of acute and chronic pain in the active duty and retired military populations constitute health care priorities of the United States.

From the Military Pain Care Act of 2008

*The U.S. Veterans Health Administration is instructing physicians and nurses who treat veterans to regard pain as a “fifth vital sign,” to be routinely assessed along with blood pressure, pulse, temperature and respiration.*

### WEB RESOURCES

**American Pain Foundation:**

**Military/Veterans and Pain**

[www.painfoundation.org/page.asp?file=Veterans/Intro.htm](http://www.painfoundation.org/page.asp?file=Veterans/Intro.htm)

**Amputee Coalition of America**

[www.amputee-coalition.org](http://www.amputee-coalition.org)

**Defense and Veterans Brain Injury Center**

[www.dvbic.org](http://www.dvbic.org)

**Disabled American Veterans (DAV)**

[www.dav.org](http://www.dav.org)

**Military Pain Care Act of 2008**

<http://www.govtrack.us/congress/bill.xpd?bill=h110-5465>

**U.S. Department of Veterans Affairs**

[www.va.gov](http://www.va.gov)



## HOT TOPICS

### Children & Pain: HOT TOPICS

- Maternal anxiety influencing daughters' experience of pain
- Some neonatologists still do not treat pain in pre-term low birth weight babies because they "won't remember it"
- Investigations into "chronic daily headaches" in children
- Unraveling pediatric pain conditions and their impact into adulthood (e.g., whether Complex Regional Pain Syndrome in children leads to adult CRPS, whether irritable bowel syndrome in adolescents is this the same as IBS in adults)
- Complementary and alternative medicine: how and what is safe to use in children with chronic pain?
- Factors leading to pain-related disability in children (e.g., missing school, not sleeping, avoiding physical and social activities, not eating)

### Gender & Pain: HOT TOPICS

- Prevalent pain conditions in women (e.g., fibromyalgia, chronic pelvic pain)
- Interface of hormones and the pain experience
- Brain imaging, uncovering routes of pain transmission and tolerance
- Differential effects of medicines across genders
- Impact of chronic pain on sexuality and self-image

**HOT TOPICS****Older Adults and End-of-Life Care & Pain: HOT TOPICS**

- False belief that pain is an inevitable part of aging
- Vitamin deficiencies and musculoskeletal pain
- Limited consumer awareness of the options that exist other than traditional “acute care” approaches (e.g., doctor’s office visits, ER visits, hospitalizations)
- Insufficient numbers of adequately trained and skilled healthcare professionals to manage the myriad issues confronting patients/families with advanced medical illness; limited number of providers with specialty in geriatrics
- Variability in delivery of hospice and palliative care services across the country
- Lack of clinical research data on pain care among elders

**Military/Veterans & Pain: HOT TOPICS**

- President Bush recently signing the Military and Veterans Pain Care Acts into law
- Emerging Options: Interdisciplinary approaches to pain care
- Acupuncture now being incorporated into treatment plans at Walter Reed Army Medical Center
- Competitive athletics as a form of therapy
- New Veteran centers open for drop-in counseling



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### PAIN MANAGEMENT & DISPARITIES

The undertreatment of pain in America is a growing public health crisis, especially among underserved populations, including ethnic minorities, women, the elderly and those who are socioeconomically disadvantaged. Despite an overall improvement in health for most Americans, certain segments of the population continue to experience poor health status.<sup>1</sup> There is compelling evidence that minorities are less likely to have access to routine, coordinated medical care or health insurance than whites. They are also more likely to receive inappropriate or insufficient care, resulting in poorer health outcomes.

As the U.S. population becomes increasingly diverse, there is an urgent need to eliminate health disparities. Patients have a right to appropriate assessment and treatment of their pain without regard to race, ethnicity or other factors.

*“Of all the forms of inequality, injustice in health is the most shocking and the most inhumane.”*

*—Martin Luther King, Jr.*

### Health Disparities Defined

According to the National Institutes of Health, health disparities are defined as “differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States.”

Disparities in health care are complex and multifaceted resulting from:

- Patient/personal factors (e.g., low socioeconomic status, communication barriers)
- Healthcare provider factors (e.g., bias, cultural insensitivity)
- Systematic/health system factors (e.g., health insurance status, access to care)



### Snapshot of U.S. Population, An Older and More Diverse Nation

According to projections by the U.S. Census Bureau:

- Minorities now comprise roughly one-third of the U.S. population.
- By 2023, more than half of all children will be from minority groups.
- Minorities are expected to become the majority in 2042.
- In 2050, the nation is projected to be 54% minority.
- The Latino population, already the nation's largest minority group, will triple in size between 2005 and 2050.
- The nation's elderly population will more than double in size from 2005 through 2050 as the baby boom generation enters traditional retirement years.

Source: U.S. Census Bureau, 2008, <http://www.census.gov/PressRelease/www/releases/archives/population/012496.html>; Pew Hispanic Center.



## Disparities in Pain Care

Pain is widely recognized as an undertreated health problem in the general population.<sup>2</sup> However, a growing body of research reveals even more extensive gaps in pain assessment and treatment among racial and ethnic populations, with minorities receiving less care for pain than non-Hispanic whites.<sup>3,4,5,6</sup>

Differences in pain care occur across all types of pain (e.g., acute, chronic, cancer-related) and medical settings (e.g., emergency departments and primary care).<sup>3,4,5,6,7</sup> Even when income, insurance status and access to health care are accounted for, minorities are still less likely than whites to receive necessary pain treatments.<sup>3,4,8</sup>

### **Minorities are less likely to:**

- Have access to pain management services and treatments
- Have their pain documented by healthcare providers
- Receive pain medications

### **And more likely to:**

- Use the emergency department for pain care, but less likely to receive adequate care
- Experience greater severity of pain
- Experience and report physical disability
- Experience poorer health and quality of life related to pain

There are clear variations in the way pain is assessed and managed among all minority populations. Significant gaps exist in the provision of effective quality pain care due to the lack of research and medical training focused on pain care disparities.<sup>3,4,9</sup>

Research also shows gender differences in the experience and

## RESEARCH ON DISPARITIES IN PAIN CARE HAVE SHOWN:

- Blacks were less likely than whites to receive pain medication and had a 66% greater risk of receiving no pain medication at all.<sup>5,6,7,9</sup>
- Hispanics were twice as likely as non-Hispanic whites to receive no pain medication in the emergency department (55% of Hispanics received no pain medication vs. 26% of non-Hispanic whites).<sup>7,10</sup>
- Minority patients were less likely to have pain recorded relative to whites, which is critical to providing quality patient care.<sup>11</sup>
- Only 25% of pharmacies in predominantly nonwhite neighborhoods had opioid supplies that were sufficient to treat patients in severe pain, as compared with 72% of pharmacies in white neighborhoods.<sup>12</sup>
- In a study of minority outpatients with recurrent or metastatic cancer, 65% did not receive guideline-recommended analgesic prescriptions compared with 50% of nonminority patients ( $P < 0.001$ ). Hispanic patients in particular reported less pain relief and had less adequate analgesia.<sup>13</sup>

treatment of pain. Most chronic pain conditions are more prevalent among women; however, women's pain complaints tend to be poorly assessed and undertreated.<sup>3</sup>

Additionally, gender differences have been identified in patient responsiveness to analgesics and pain stimuli. While estrogen and progesterone play a role in how pain signals are received in men and women, psychology and culture may also account for some of the difference. For example, children may learn how to respond to pain later in life depending on how their pain complaints were treated in their formative years (e.g., receiving comfort and validation versus being encouraged to tough it out or dismiss the pain).<sup>14</sup> For more information, see the *Special Considerations: Pain in Specific Populations* Topic Brief.

In response to the overwhelming discrepancies in pain treatment among minority groups, the Joint Commission issued a statement recognizing the rights of all patients to receive appropriate assessment and management of pain, and the World Health

Organization has declared that pain relief is a human right.

### **Patient and provider factors drive pain disparities**

Multiple factors contribute to racial and ethnic disparities in pain care, including beliefs about pain, preconceived bias and cultural insensitivity and poor patient-provider communication.

Positive physician-patient interaction and communication is critical in accurate pain assessment.<sup>2</sup> Some research has shown that patients take a more active role in their own pain treatment when their healthcare providers are of similar ethnic backgrounds.<sup>3,4</sup>

*“Pain is a complex, subjective response with several quantifiable features, including intensity, time course, quality, impact, and personal meaning. The reporting of pain is a social transaction between caregiver and patient.”<sup>15</sup>*



*Patient sources of racial and ethnic disparities:*<sup>3</sup>

- Low socioeconomic status
- Patients' attitudes or beliefs regarding pain and patient-level decision making and preferences
  - Stoicism and the belief that pain is an inevitable part of disease
- Minority patients more likely to:
  - Refuse recommended pain therapies
  - Poorly adhere to treatment regimens
  - Delay seeking medical care
- Mistrust of physicians or previous negative experiences with health care system
- Limited health literacy
- Language barriers that hinder communication with providers

*Physician sources of racial and ethnic disparities:*<sup>3</sup>

- Perceptions of race and ethnicity
- Racism or bias
- Poor cross cultural communication skills/cultural insensitivity
- Underrepresentation of physicians from racially/ethnically diverse backgrounds/lack of cultural sensitivity

**HOT TOPICS****Disparities & Pain: HOT TOPICS**

- Aging and increasingly diverse U.S. population could lead to greater disease burden if pain remains untreated
- Undertreatment of minorities in emergency departments
- Minority pain complaints receive less attention than others
- Impact of pain on productivity and quality of life among minority patients
- Pain relief as a human right

**Minorities lack access to effective pain care**

Limited access to pain care services is a key contributor to poorer pain treatment among minorities.

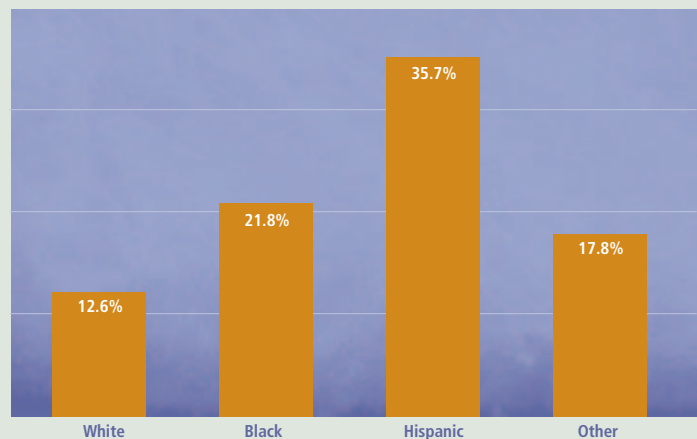
- Overall, minorities tend to be financially poorer than non-Hispanic whites.
- Socioeconomic factors can impede access to health insurance and primary health care services, and minorities are less likely to have access to pain treatment services than the general population.<sup>3,4,7,16,17</sup>
- Racial and ethnic minorities are at increased risk of having their pain complaints ignored by healthcare providers, thereby limiting their options for accessing appropriate pain treatment.<sup>3,4,6,7</sup>

According to the Robert Wood Johnson Foundation, 46 million

Americans, including 9 million children, are living without health care coverage. More than eight out of 10 are from working families. The consequences of being uninsured are widely recognized and include: lack of access to health care, poor quality care, lost economic productivity, as well as financial burdens on individuals and society overall. As the minority population in the U.S. continues to grow, it becomes increasingly important to address the numbers of uninsured and underinsured among racial and ethnic groups.

Barriers also exist in patient access to pain medications. Research shows that physicians may be less likely to prescribe pain medications for minority populations<sup>6,7,16,18</sup> and pharmacies in neighborhoods with large minority populations often do not carry opioid medications.<sup>3,4,12</sup>

**PERCENTAGE UNINSURED AMONG THE NONELDERLY POPULATION BY RACE AND ETHNIC ORIGIN, 2006**



Sources: Employee Benefit Research Institute estimates from the March Current Population Survey, 2007 Supplement. Cover the Uninsured, [www.covertheuninsured.org](http://www.covertheuninsured.org).

*“Inequities in access can contribute to and exacerbate existing disparities in health and quality of life, creating barriers to a strong and productive life.”*

—The Commonwealth Fund

## More extensive research needed to close disparities gap

While national attention has become increasingly focused on health disparities, less attention has been given specifically to inequities in pain care.<sup>19,20</sup>

However, the growing interest in health disparities in general provides pain treatment providers, researchers and advocates with an opportunity to raise awareness about disparities in pain management and the need for additional pain disparities research. Currently, the social impact of pain on patients, their families and communities is largely absent in most federal research plans.<sup>3,4</sup>

## Additional studies and a comprehensive pain research agenda are needed to:

- Understand the role of stereotypes and bias in doctor-patient interactions
- Improve training for healthcare providers
- Plan educational interventions for patients
- Understand the differences in patient behaviors that may contribute to pain care disparities
- Develop culturally sensitive pain assessment tools
- Raise consciousness about disparities in pain management and barriers to effective healthcare overall

## WEB RESOURCES

### CDC Office of Minority Health and Health Disparities

<http://www.cdc.gov/omhd/>

### Cover the Uninsured: a Project of the Robert Wood Johnson Foundation

<http://covertheuninsured.org/>

### American Pain Society: Racial and Ethnic Identifiers in Pain Management: The Importance to Research, Clinical Practice, and Public Health Policy

<http://www.ampainsoc.org/advocacy/ethnoracial.htm>

### Agency for Healthcare Research and Quality: Addressing Racial and Ethnic Disparities in Health Care

<http://www.ahrq.gov/research/disparit.htm>  
<http://www.ahrq.gov/qual/nhdr03/nhdrsum03.htm>

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## CHRONIC PAIN AND OPIOID TREATMENT

Effective management of chronic pain often requires a step-wise trial of different treatment options, a team of healthcare providers and social support from family and friends. Healthcare providers may start with behavioral and non-pharmacological interventions (e.g., hot/cold therapy, physical therapy, relaxation techniques) when devising pain treatment plans. However, pain relievers, including prescription pain medicines (opioid analgesics), are often prescribed to help alleviate pain and improve function.

### Key Issues

- More than 76.5 million Americans suffer with pain.<sup>1</sup> The consequences of unmanaged chronic pain are devastating for patients. It is not uncommon for patients with intractable, debilitating pain—many of whom are often made to feel that the pain is “just in their heads”—to want to give up rather than living one more day in excruciating pain.
- For many patients, opioids are an integral part of a comprehensive pain management plan to help relieve pain, restore functioning and improve quality of life.<sup>2,3</sup>
- Unfortunately, patient access to these medications may be hindered by unbalanced state policies, persisting social stigma surrounding their use, as well as therapeutic switching and/or step therapies imposed by insurance companies.
- Unless a patient has a past or current personal or family history of substance abuse, the likelihood of addiction is low when opioids are taken as prescribed and under the guidance of a physician; however, they have the potential for misuse, abuse and diversion.
- Rising rates of prescription drug abuse and emergency room admissions related to prescription drug abuse, as well as an increase in the theft and illegal resale of prescription drugs, indicate that drug diversion is a growing problem nationwide.<sup>4</sup> The main source of drug diversion is unlikely the prescriber as was once assumed, but rather from theft by family, friends and workers in the home or from the sharing and selling of medications though often with good intentions.<sup>5</sup>
- Diverse players (e.g., lawmakers, educators, healthcare providers, the pharmaceutical industry, caregivers) must come together to address the dual public health crises of the undertreatment of pain and rising prescription drug abuse.<sup>6</sup>
- Alleviating pain remains a medical imperative—one that must be balanced with measures to address rising non-medical use of prescription drugs and to protect the public health.<sup>6</sup>

### Opioids 101

Opioids include morphine, oxycodone, oxymorphone, hydrocodone, hydromorphone, methadone, codeine and fentanyl. Opioids are classified in several ways, most commonly based on their origin and duration of effects.<sup>7</sup>

#### Common classifications for opioids<sup>7,8</sup>

<b>SOURCE</b>	<b>Natural or semisynthetic:</b> Contained in or slightly modified (semisynthetic) from chemicals found in poppy resin	Synthetic: Synthesized in the laboratory
<b>DURATION OF RESPONSE</b>	<b>Short-acting:</b> Provide quick-acting pain relief and are used primarily as “rescue medication,” as in acute pain	Long-acting: Provide longer duration of pain relief and are most often used for stable, chronic pain

One of the advantages of opioids is that they can be given in so many different ways. For example, they can be administered by mouth, rectal suppository, intravenous injection (IV), subcutaneously (under the skin), transdermally (in the form of a patch) or into a region around the spinal cord. Patches, IV injections and infusions are very important for patients who cannot swallow, or whose GI tracts are not working normally.<sup>9</sup>

Opioids are believed to work by binding to specific proteins (opioid receptors), which are found in specialized pain-controlling regions of the brain and spinal cord. When these compounds attach to certain opioid receptors, the electrical and chemical signals in these regions are altered, ultimately reducing pain.<sup>7</sup>

Because of their long history of

use, the clinical profile of opioids has been very well characterized. Multiple clinical studies have shown that long-acting opioids, in particular, are effective in improving:

- Daily function
- Psychological health
- Overall health-related quality of life for patients with chronic pain<sup>10</sup>

However, some types of pain, such as pain caused by nerve compression or destruction, do not appear to be relieved by opioids.<sup>8</sup>

### Adverse Effects

Side effects of opioids result primarily from activation of opioid receptors outside and within the nervous system. Activation of opioid receptors in the gut, for example, may cause constipation,

nausea and vomiting, and other gastrointestinal effects. Tolerance to nausea and vomiting usually develops within the first few days or weeks of therapy, but some patients are intolerant to opioids and experience severe adverse side effects.<sup>8</sup> Other side effects include drowsiness, mental clouding and, in some people, euphoria.<sup>7</sup> Recent research shows that genetic variations may influence opioid metabolism.

Depending on the amount taken, opioids can depress breathing. The risk of sedation and respiratory depression is heightened when opioids are taken with other sedating medications (e.g., antihistamines, benzodiazepines), reinforcing the need to carefully monitor patients. However, this effect is usually not present after a patient has taken opioids regularly.

### Careful Monitoring of and Open Communication with Patients

Patients taking opioids must be carefully selected and monitored, and should speak openly with their healthcare provider about noticeable improvements in functioning, as well as side effects and other concerns (e.g., constipation, fears of addiction).

## The Four "A's"

**Analgesia** – Is the pain relief clinically significant? Is there a reduction in the pain score (0-10)?

**Activity levels** – What is the patient's level of physical and psychosocial functioning? Has treatment made an improvement?

**Adverse effects** – Is the patient experiencing side effects from pain relievers? If so, are they tolerable?

**Aberrant behaviors** – Are there any behaviors of concern such as early refills or lost medication? Does the patient show signs of misuse, abuse or addiction? What is the plan of action?

Source: Passik & Weinreb, 1998; Passik & Portenoy, 1998

The American Pain Foundation's *Target Chronic Pain* materials help facilitate open dialogue between patients and their healthcare team, and give prescribers tools for selecting, monitoring and following patients. To access these resources, visit [www.painfoundation.org](http://www.painfoundation.org) and click on the Publications tab.

### Dual Public Health Crises: Balancing Medical Imperative to Relieve Suffering and Protect Public Safety

Pain affects more Americans than diabetes, heart disease and cancer combined, and it is one of the leading causes of disability in the United States. Recognition of pain as a growing public health crisis has led to the establishment of specialized pain clinics, treatment guidelines for certain types of pain, as well as greater use of treatment strategies to effectively alleviate pain and improve functioning, including prescription pain medicines.

As the therapeutic use of opioids has increased to appropriately address pain, there has been a simultaneous and dramatic rise in non-medical use of prescription drugs.<sup>11</sup> When abused—that is, taken by someone other than the patient for whom the medication was prescribed, or taken in a manner or dosage other than what was prescribed—prescription medications can produce serious adverse health effects and can lead to addiction, overdose and even death.

People who abuse opioids typically do so for the euphoric effects (e.g., the “high”); however, most abusers are **not** patients who take opioids to manage pain.<sup>12</sup> Rather, they are often people within the social network of the patient. In fact, 71% of people abusing prescription pain relievers received them from a friend or family member without a prescription.<sup>5</sup> Prescription pain relievers are usually stolen from medicine cabinets, purchased or shared in schools, or simply given away.

### Picture of Prescription Drug Abuse in America

- An estimated 2.2 million Americans abused pain medications for the first time in 2006.<sup>12</sup> The rate of new abuse of opioids has risen most dramatically among teenagers.
- Between 1992 and 2002, reported abuse by teenagers increased by 542%.<sup>13</sup>
- From 1999 to 2004, unintentional poisoning deaths associated with opioids and hallucinogens rose by 55%, and the increase has been attributable primarily to prescription pain relievers.<sup>14</sup>
- According to 2005 and 2006 National Surveys on Drug Use and Health, an annual national average of 6.2% of persons aged 12 or older had used a prescription psychotherapeutic drug non-medically in the 12 months leading up to the survey; an average of 9.1% of youths aged 12 to 17 were past year non-medical users of any prescription psychotherapeutic drug.<sup>12</sup>
- Nearly 600,000 emergency department visits involved non-medical use of prescription or over-the-counter (OTC) pharmaceuticals or dietary supplements. Opiates/opioid analgesics accounted for 33% of the non-medical visits. Anti-anxiety agents (sedatives and hypnotics) accounted for 34% of the non-medical visits.<sup>4</sup>

The growing prevalence of prescription drug abuse not only threatens the lives of abusers; concerns about misuse, abuse and diversion may also jeopardize effective pain management by impeding patient access to opioids. Fear of scrutiny by regulators or law enforcement, and specific action by some agencies, has had a “chilling effect” on the willingness of some doctors, nurse practitioners and physician assistants to prescribe opioids.<sup>6,15</sup>

Moreover, high profile reports of drug abuse, diversion and addiction, or of legal actions taken against prescribers have helped perpetuate a negative—and

sometimes false—picture of chronic pain management.<sup>6</sup> Over time, these reports overshadow untold stories of people with pain—those whose lives have been shattered by unrelenting pain—who get needed pain relief from these medications. Understanding the difference between tolerance, physical dependence, abuse and addiction is also critical to telling the story (See page 31-32 for definitions). According to medical experts, use of the term “narcotic” in news reports may further reinforce the myths and misconceptions of this class of drugs, given the negative connotation.<sup>6</sup>

*“...[T]he attitude toward opioids has ranged from complete avoidance to widespread therapeutic use with minimal caution. These extremes have been driven by insufficient appreciation of risks by those at one end of the spectrum, and excessive fear of punitive regulatory scrutiny or exaggerated perceptions of addictive risk by those at the other. When opioids are prescribed for pain control in adequately evaluated, selected, and monitored patients, addiction is rare.”*

— Perry Fine, Topics in Pain Management



## Strategies to Address Twin Public Health Crises

Systematic and targeted approaches are essential to address the growing prevalence and complexity of prescription drug abuse, while simultaneously ensuring that people with legitimate medical needs receive effective treatment.

*These approaches can generally be categorized as follows:*

- Legislative strategies to create balanced and consistent regulation and improve state-based prescription drug monitoring programs.
- Educational efforts to raise awareness about prescription drug abuse and its dangers among schools, families, healthcare providers, patients and potential abusers.
- Medical strategies to help identify and monitor patients who require opioid management, to include the incorporation of risk management into the treatment

plan (e.g., treatment agreements, urine testing and monitoring, transition planning, collaborative practice with addiction medicine and behavioral health specialists).

- Pharmaceutical industry strategies to help prevent misuse, abuse and diversion by developing new tamper resistant packaging and/or formulations (e.g., tamper-resistant bottles, electromagnetic chips to track medication, new formulations that could resist or deter common methods of opioid abuse).

For additional recommendations, see the American Pain Foundation's report outlining critical barriers to appropriate opioid prescribing for pain management, *Provider Prescribing Patterns and Perceptions: Identifying Solutions to Build Consensus on Opioid Use in Pain Management*. This 16-page report calls for a more balanced perspective of the risks and benefits of these medications in practice and policy and summarizes key challenges and actionable solutions discussed by leading pain experts at a roundtable meeting hosted by APF.

## Making the Grade: Evaluation of State Policies

The Pain & Policy Studies Group (PPSG) report "Achieving Balance in State Pain Policy: A Progress Report" graded states on quality of its policies affecting pain treatment and centered on the balance between preventing abuse, trafficking and diversion of controlled substances and simultaneously ensuring the availability of these medications for legitimate medical purposes. PPSG researchers evaluated whether state pain policies and regulations enhance or impede pain management and assigned each state a grade from 'A' to 'F.'

### State Grades for 2008

State	2008 Grade	State	2008 Grade
Alabama	B+	Montana	C+
Alaska	C+	Nebraska	B+
Arizona	B+	Nevada	C
Arkansas	B	New Hampshire	B
California	B	New Jersey	C+
Colorado	B	New Mexico	B+
Connecticut	B	New York	C
Delaware	C+	North Carolina	B
District of Columbia	C+	North Dakota	B
Florida	B	Ohio	B
Georgia	B	Oklahoma	C+
Hawaii	B	Oregon	A
Idaho	B	Pennsylvania	C+
Illinois	C	Rhode Island	B+
Indiana	C+	South Carolina	C+
Iowa	B	South Dakota	B
Kansas	A	Tennessee	C
Kentucky	B	Texas	C
Louisiana	C	Utah	B+
Maine	B+	Vermont	B+
Maryland	B	Virginia	A
Massachusetts	B+	Washington	B+
Michigan	A	West Virginia	B
Minnesota	B+	Wisconsin	A
Mississippi	C+	Wyoming	C+
Missouri	C+		

Source: The Pain & Policy Studies Group,  
[http://www.painpolicy.wisc.edu/Achieving\\_Balance/PRC2008.pdf](http://www.painpolicy.wisc.edu/Achieving_Balance/PRC2008.pdf).



## At a Glance: Differentiating physical dependence, tolerance, abuse and addiction

Unfortunately, confusion between normal physiological responses to opioids (physical dependence and tolerance) and pathological phenomena such as addiction or abuse persist. Such misunderstandings not only reinforce the stigma surrounding legitimate medical use of these medicines, they also fuel fears of addiction and, in turn, may impinge on patient access to these medications. Although the use of opioids carries some risk of addiction, clinical studies have shown that the potential for addiction is low for the vast majority of patients using opioids for the long-term management of chronic pain.<sup>17</sup> As with any medication, there are risks, but these risks can be managed.

*“Universal agreement on definitions of addiction, physical dependence and tolerance is critical to the optimization of pain treatment and the management of addictive disorders.”*

— Consensus document from the American Academy of Pain Medicine, the American Pain Society and the American Society of Addiction Medicine

**Physical dependence** is characterized by biological changes that lead to withdrawal symptoms (e.g., sweating, rapid heart rate, nausea, diarrhea, goosebumps, anxiety) when a medication is discontinued, and is not related to addiction. Physical dependence differs from psychological dependence, or the cravings for the euphoria caused by opioid abuse. Symptoms of physical dependence can often be ameliorated by gradually decreasing the dose of medication during discontinuation.<sup>7</sup>

**Tolerance** is a biological process in which a patient requires increasing amounts of a medication to achieve the same amount of pain relief. Dose escalations of opioid therapies are sometimes necessary and reflect a biological adaptation to the medication. Although the exact mechanisms are unclear, current research indicates that tolerance to opioid therapy develops from changes in opioid receptors on the surface of cells.<sup>7</sup> Thus, the need for higher doses of medication is not necessarily indicative of addiction.<sup>3</sup>

**Addiction** is a disease characterized by preoccupation with and compulsive use of a substance, despite physical or psychological harm to the person or others.<sup>3</sup> Behaviors suggestive of addiction may include: taking multiple doses together, frequent reports of lost or stolen prescriptions, and/or altering oral formulations of opioids.

**Abuse** is the intentional self-administration of a medication for a non-medical purpose, such as to obtain a high.<sup>3</sup> Both the intended patient and others have the potential to abuse prescription drugs; in fact, the majority of people who abuse opioids do not suffer from chronic pain.<sup>12</sup>

**Pseudo-addiction** describes patient behaviors that may occur when pain is undertreated. Patients with unrelieved pain may become focused on obtaining medications and may otherwise seem inappropriately “drug seeking,” which may be misidentified as addiction by the patient’s physician. Pseudo-addiction can be distinguished from true addiction in that this behavior ceases when pain is effectively treated.<sup>3</sup>

## MISUSE VS. ABUSE?

- **Medical Misuse:** Legitimate use of a valid personal prescription but using differently from provider's instruction, such as taking more frequently or higher than the recommended doses. Use may be unintentional and considered an educational issue.
- **Medical Abuse:** Valid personal prescription by using for reasons other than its intent, such as to alleviate emotional stress, sleep restoration/prevention, performance improvement, etc. Use may be unintentional and considered an educational issue.
- **Prescription Drug Misuse:** Intentional use of someone else's prescription medication for the purpose of alleviating symptoms that may be related to a health problem. The use may be appropriate to treat the problem but access to obtain this drug may be difficult/untimely or may have been provided from a well-intentioned family member or friend.
- **Prescription Drug Abuse:** Intentional use of a scheduled prescription medication to experiment, to get high or to create an altered state. Access to the source may be diversion from family, friends or obtained on the street. Inappropriate or alteration of drug delivery system, used in combination of other drugs or used to prevent withdrawal from other substances that are being abused are included in this definition.

Source: Carol J. Boyd PhD, MSN, RN; Director: Institute for Research on Women and Gender, Substance Abuse Research Center, University of Michigan

### **Risk factors for opioid misuse include, but are not limited to:**<sup>2,3,19</sup>

- Personal or family history of prescription drug or alcohol abuse
- Cigarette smoking
- History of motor vehicle accidents
- Substance use disorder
- Major psychiatric disorder (e.g., bipolar disorder, major depression, personality disorder)
- Poor family support
- History of preadolescent sexual abuse

*NOTE:* Unless a patient has a past or current history of substance abuse, the potential for addiction is low when opioid medications are prescribed by a doctor and taken as directed. Those patients who suffer with chronic pain and addictive disease deserve the same quality of pain treatment as others, but may require greater resources in their care.

## WEB RESOURCES

### **Opioid RX**

[http://pain-topics.org/opioid\\_rx/#RiskManage](http://pain-topics.org/opioid_rx/#RiskManage)

### **Tufts Health Care Institute Program on Opioid Risk Management**

<http://www.thci.org/opioid/>

### **Opioid Risk Management PainEDU**

<http://www.painedu.org/soap.asp>

### **Emerging Solutions**

[http://www.emergingsolutionsinpain.com/index.php?option=com\\_frontpage&Itemid=1](http://www.emergingsolutionsinpain.com/index.php?option=com_frontpage&Itemid=1)

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*“The purpose of life...is to be useful, to be honorable, to be compassionate, to make some difference...”*

*—Ralph Waldo Emerson*

## INTEGRATIVE MEDICINE: NON-DRUG TREATMENT OPTIONS FOR PAIN MANAGEMENT

Pain management continues to challenge healthcare providers and places added strain on an already fragmented health care system. The U.S. health system was built around acute illness; however, because of advances in modern medicine and increased longevity, many Americans are living longer and with one or more chronic conditions (for example, cancer, diabetes, heart disease and arthritis), which require careful coordination of care and symptom management.

While pain is a symptom of many chronic diseases and is expected after many surgical procedures, persistent pain should not be viewed simply as a symptom. According to experts, the pain itself becomes a disease

when the origin of the pain signals fails to shut off due to damage of the pain alarm system, leaving the person with persisting pain.

Whatever the cause, chronic pain transcends the physical hurting. Persistent pain interferes with daily life and relationships, and takes a tremendous toll on a person's mind, body and spirit. It's no surprise that pain and associated problems (e.g., medication side effects, depression and anxiety, limited mobility) are best managed using a combination of treatments tailored to each patient. This is referred to as a "multi-modal" or integrative approach.



**Integrative medicine** combines conventional medicine with complementary healing techniques, such as massage, yoga and acupuncture, to address the specific needs. Because an interdisciplinary approach to pain management is patient-centered, patients learn how to manage and cope with pain by playing an active role in their treatment plan.

Integrative medicine combines treatments from conventional medicine and complementary and alternative therapies for which there is some high-quality evidence of safety and effectiveness.<sup>1</sup> Being able to deliver integrated medicine, which incorporates proven CAM therapies into "mainstream" care, is increasingly important to consumers and healthcare providers.<sup>4</sup>



## Benefits of Combined Treatment Modalities

While medications remain an integral part of pain management plans, non-drug therapies may be used to supplement and enhance the effectiveness of current pain medications. These strategies also offer additional options for those patients at greater risk for, or who are intolerant of, medication side effects.

Moreover, a growing body of research reinforces the benefits of interventions that address the psychosocial aspects of pain, especially given recent evidence of a biological link between the regions of the brain involved with depression and pain regulation. People with pain often suffer from depression, which can affect a patient's thinking, concentration and behavior, and increase pain sensitivity and severity.

Effective pain management may also require lifestyle changes that are supportive of patient mobility and independence.<sup>2</sup> For example, to improve daily functioning, specific therapies may be suggested to increase muscle strength and flexibility, enhance sleep and reduce fatigue, and assist patients in performing usual activities and work-related tasks.

As with the management of other chronic illnesses, patients with chronic pain need to play an active role in their care and incorporate non-drug options and other lifestyle changes (e.g., exercise, proper nutrition) over the long-term.

## Patients Seek Complementary Treatments

In their quest for better pain relief, patients are increasingly turning to non-drug approaches to help ease their discomfort and give them a sense of empowerment and control. There are a wide variety of non-drug therapies available to treat pain and related disability including:

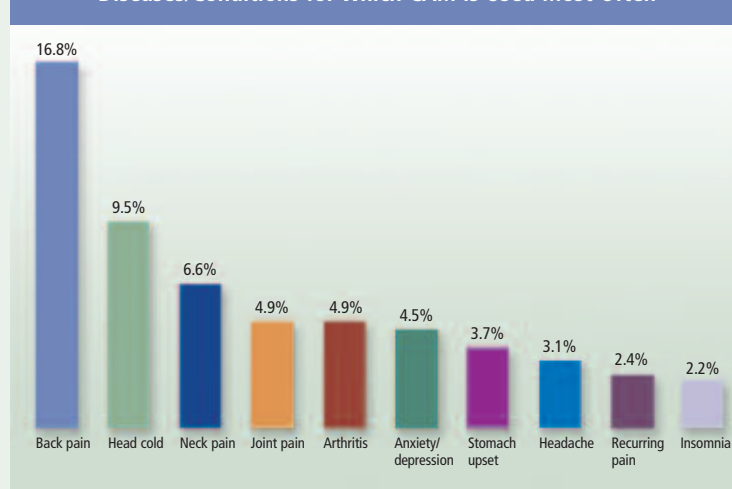
- *Psychosocial interventions* – cognitive behavioral therapy, stress management
- *Rehabilitation techniques* – exercise, heat or cold therapy, physical therapy
- *Complementary and alternative medicine* – meditation, acupuncture, hypnotherapy, yoga, aromatherapy, massage, touch therapy

Not surprisingly, pain conditions are among those most likely to prompt patients to turn to complementary and alternative medicine (CAM) therapies. These practices also give patients a greater sense of control, so they no longer feel that they are solely dependent on a single pill or procedure.

## COMMON NON-DRUG OPTIONS FOR PAIN RELIEF

- Stress management techniques (e.g., meditation, deep breathing and relaxation exercises)
- Massage
- Application of heat or cold, including heating pads or ice packs
- Acupuncture
- Visualization
- Physical therapy, including stretching or exercise
- Hypnotherapy
- Psychological and spiritual counseling
- Biofeedback
- Transcutaneous electrical nerve stimulation, also known as TENS

### Diseases/Conditions for Which CAM is Used Most Often



Source: NCCAM, *The Uses of CAM in the United States*.

## What is CAM?

CAM includes a diverse group of healing systems, practices and products that are not part of conventional medicine. Examples of CAM therapies include acupuncture, massage, meditation, hypnosis, yoga and herbal therapies. These approaches are increasingly used to help manage pain and related issues (e.g., depression, anxiety, fatigue) and enhance patients' quality of life. NCCAM, one of 27 institutes and centers designated by the National Institutes of Health, is the lead agency for scientific research on CAM and groups these therapies into four areas.

### CAM DOMAINS DEFINED

<b>Mind-body medicine</b>	Uses a variety of techniques designed to enhance the mind's ability to affect the body's function and symptoms. Examples include meditation, hypnosis, guided imagery, prayer, as well as art or music therapy.
<b>Biologically based practices</b>	Use substances found in nature, such as herbs, special diets or vitamins. Some examples include dietary supplements or herbal products (e.g., garlic, ginger, Kava Kava).
<b>Manipulative and body-based practices</b>	Based on manipulation or movement of one or more parts of the body. Examples include massage and chiropractic or osteopathic manipulation.
<b>Energy medicine</b>	Involves the use of energy fields, such as magnetic fields or biofields (energy that some believe surround and run through the body). Examples include qi gong, Reiki and therapeutic touch.

Many CAM practices are gentle methods that tend to have fewer side effects, which is part of their appeal to patients. Patients also use these therapies to help alleviate the associated stress, depression and insomnia that can accompany and worsen pain sensations.

Some CAM practices, such as acupuncture, massage and chiropractic care require the practitioner to be licensed. It's important for patients to research and find a CAM practitioner who is certified, willing and equipped to coordinate with other members of the patient's health team, and has experience working with patients with chronic pain.

*When tailored to the individual patient, non-drug approaches to pain management can help:*

- Allow patients to take an active role in managing their pain, thereby, improving patient satisfaction
- Address the physical, emotional and spiritual needs of patients
- Reduce pain and manage related symptoms (e.g., pain and anxiety, depression, insomnia, fatigue)
- Enhance the effectiveness and minimize adverse effects of medications
- Reduce health care costs by reducing doctor visits and reliance on medications
- Improve functioning and the ability to perform activities of daily living
- Enhance wellness and quality of life

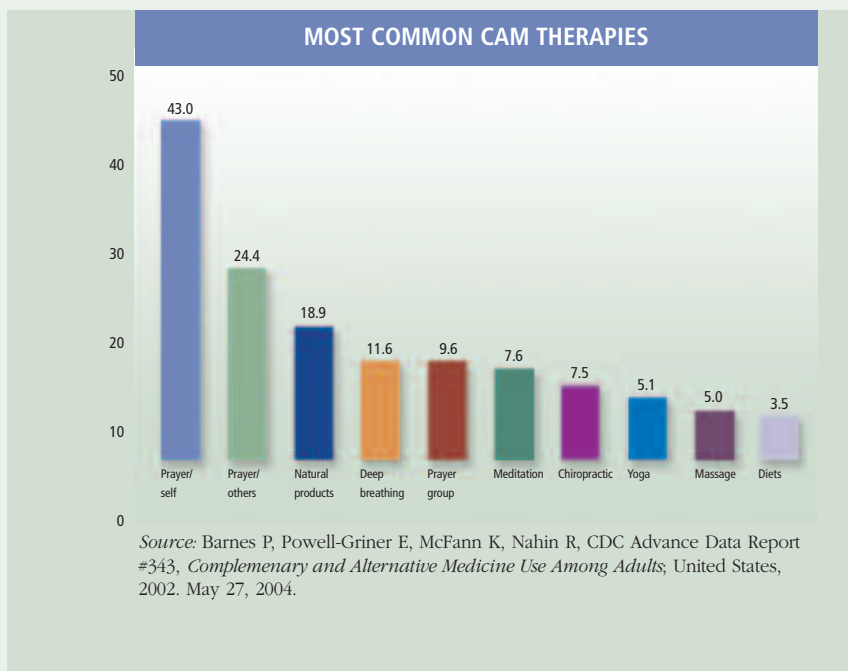
## More and more Americans are turning to CAM to help manage and treat various health problems, including pain and distress.

- An estimated 36% of American adults use some form of CAM, and this percentage jumps to 62% if prayer for health reasons and megavitamin therapy are included.<sup>3</sup>
- Americans spend at least \$34-47 billion on CAM therapies, exceeding out of pocket expenses for all U.S. hospitalizations. CAM is expected to grow by 15% each year.<sup>3</sup>
- People report using CAM because these methods mirror their personal beliefs, values and philosophical orientations toward life.<sup>4</sup>
- Many people use CAM to help relieve back pain, joint pain, severe headache and pain associated with migraines, dental and jaw pain and for a variety of other reasons.<sup>4</sup>

## Barriers to Fully Integrating CAM

Despite CAM's growing popularity, there are barriers to its widespread use. According to CAM experts, these include:

- Limited scientific evidence about the safety and effectiveness of certain therapies. Studies are underway to research specific CAM practices for pain management.
- Lack of professional training in CAM and integrative medicine and limited resources to coordinate services.
- Restricted health insurance coverage. Many CAM therapies are not yet covered by health insurance carriers and are, therefore, only available to patients on an outpatient fee-for-service basis. Insurers tend to restrict reimbursement to "medically necessary" therapies and without the data to back up their effectiveness, these practices are not covered.



- Lack of education (on the part of consumers and providers) about the appropriate use of CAM therapies and how best to integrate them with standard pain treatments.

- Misperceptions about CAM therapies as "elusive, nonsensical options."

Source: American Pain Foundation, *Pain Community News*, Spring 2008.

### Paying for non-drug therapies

The majority of CAM treatments are not currently covered by traditional insurance plans, largely due to the absence of scientific evidence proving the effectiveness of some CAM therapies. When coverage for CAM is offered, it is generally limited to more common therapies such as acupuncture and massage. Most people must pay for CAM services out-of-pocket; however, consumer interest has prompted more insurance companies to consider CAM coverage.

A study in Washington State, where private health insurers are legally required to cover licensed CAM providers, found that a significant number of people were utilizing CAM insurance benefits with only a modest effect on insurance expenditures.<sup>5</sup>

Given the high cost and low insurance coverage of many CAM therapies, it is important that patients, especially those that are no longer able to work,

have access to low cost, at-home therapies that provide effective pain relief. These may include heat and cold therapies, relaxation techniques and exercise.

People living with chronic pain are increasingly turning to CAM to help alleviate their suffering and improve their quality of life. The addition of these therapies often results in better pain relief and fewer side effects. However, more research is needed to prove the effectiveness of certain therapies and increase the likelihood that they will be covered by conventional insurance providers and offered as an option to all patients living with pain.

With nearly half of all consumers concerned about the safety of their health care,<sup>6</sup> the use of CAM and other non-drug treatments for pain management is expected to grow as non-drug therapies are proven safe and effective and adopted into routine health care.<sup>7</sup>

For a snapshot of recent research on select CAM therapies, see the Spring 2008 issue of *Pain Community News* at [www.painfoundation.org](http://www.painfoundation.org).

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### WEB RESOURCES

**American Academy of Pain Management**  
[www.aapainmanage.org](http://www.aapainmanage.org)

**American Pain Foundation Treatment Options**  
[www.painfoundation.org/Publications/TreatmentOptions2006.pdf](http://www.painfoundation.org/Publications/TreatmentOptions2006.pdf)

**National Center for Complementary and Alternative Medicine (NCCAM)**  
[www.nccam.nih.gov](http://www.nccam.nih.gov)

**The Office of Cancer Complementary and Alternative Medicine**  
[www.cancer.gov/cam](http://www.cancer.gov/cam)

## Common Pain Terms and Syndromes

*Hundreds of pain syndromes or disorders make up the spectrum of pain. There are the most benign, fleeting sensations of pain, such as a pin prick. There is the pain of childbirth, the pain of a heart attack, and the pain that sometimes follows amputation of a limb. There is also pain accompanying cancer and the pain that follows severe trauma, such as that associated with head and spinal cord injuries. A sampling of common pain terms and syndromes follows, listed alphabetically.*

**Acute Pain** occurs suddenly due to illness, injury or surgery. It has a short duration that subsides when the injured tissue heals.

**Arachnoiditis** is a condition in which one of the three membranes covering the brain and spinal cord, called the arachnoid membrane, becomes inflamed. A number of causes, including infection or trauma, can result in inflammation of this membrane. Arachnoiditis can produce disabling, progressive, and even permanent pain.

**Arthritis** is the most prevalent cause of chronic disability in the United States. Millions of Americans suffer from arthritic conditions such as osteoarthritis, rheumatoid arthritis, ankylosing spondylitis, and gout. These disorders are characterized by joint pain in the extremities. Many other inflammatory diseases affect the body's soft tissues, including tendonitis and bursitis.

**Back pain** has become the high price paid by our modern lifestyle and is a startlingly common cause of disability for many Americans, including both active and inactive people. Common types of back pain include:

- **Sciatica** — back pain that spreads to the leg (see below).
- **Degenerative or ruptured disc** — type of back pain associated with the discs of the spine, the soft, spongy padding between the vertebrae (bones) that form the spine. Discs protect the spine by absorbing shock, but they tend to degenerate over time and may sometimes rupture.
- **Spondylolisthesis** — back condition that occurs when one vertebra extends over another, causing pressure on nerves and therefore pain.
- **Radiculopathy** — damage to nerve roots is a serious condition that can be extremely painful.

Treatment for a damaged disc includes drugs such as painkillers, muscle relaxants, and steroids; exercise or rest, depending on the patient's condition; adequate support, such as a brace or better mattress and physical therapy. In some cases, surgery may be required to remove the damaged portion of the disc and return it to its previous condition, especially when it is pressing a nerve root. Surgical procedures include discectomy, laminectomy, or spinal fusion. Minimally invasive procedures (vertebroplasty), certain complementary and alternative therapies and implantable devices may also help certain patients.

**Breakthrough Pain** is intermittent worsening of pain that occurs spontaneously or in relation to a specific activity. The pain increases above the level of pain being treated with ongoing analgesics (pain medications).

**Burn pain** can be profound and poses an extreme challenge to the medical community. First-degree burns are the least severe; with third-degree burns, the skin is lost. Depending on the injury, pain accompanying burns can be excruciating, and even after the wound has healed patients may have chronic pain at the burn site.

**Cancer pain** can accompany the growth of a tumor, the treatment of cancer, or chronic problems related to cancer's permanent effects on the body. Fortunately, most cancer pain can be treated to help minimize discomfort and stress to the patient.

**Central pain syndrome** — see Traumatic Pain below.

**Chronic Pain** is pain that persists for long periods of time (usually >3 months). Failure to treat acute pain promptly and appropriately at the time of injury, during initial medical and surgical care, and at the time of transition to community-based care, contributes to the development of chronic pain syndromes. In chronic pain, pain signals may remain active in the nervous system for weeks, months or even years. Chronic pain has no value or benefit; it is a disease of the nervous system.

### *Types of Chronic Pain:*

- **Intermittent Pain** - episodic and may occur in waves or patterns.
- **Persistent Pain** - lasts 12 or more hours every day for more than three months.

**Complex Regional Pain Syndrome**, or CRPS, is a chronic pain condition that typically affects one or more limbs. It is accompanied by burning pain and hypersensitivity to temperature. Often triggered by trauma or nerve damage, CRPS causes the skin of the affected area to become characteristically shiny.

### *There are two types of CRPS:*

- **CRPS I** (formerly known as Reflex Sympathetic Dystrophy Syndrome, or RSDS) is frequently triggered by tissue injury, but with no underlying or identifiable nerve injury.



- **CRPS II** (formerly known as Causalgia) is characterized by the same symptoms, but these cases are clearly associated with a specific nerve injury.

The cause of CRPS is not well understood, but experts believe it is due to a malfunction of the autonomic nervous system following blunt trauma to an arm or leg, after surgical procedures or even from minor injuries such as a sprain or fracture. Nerves begin to misfire, repeatedly sending pain impulses to the brain. The resulting pain seems out of proportion to the severity of the injury.

**Deafferentation Pain:** pain due to alteration or damage to the central nervous system (central pain or neuropathic pain) or may be alteration of nervous system within larger nerves or nerve roots before entry into central nervous system.

**Fibromyalgia** is a chronic pain disorder characterized by widespread musculoskeletal pain that has lasted for at least three months. People with fibromyalgia report general tenderness and soreness, muscle stiffness, especially in the morning, as well as fatigue. Stress or lack of sleep can make the symptoms of fibromyalgia worse. An estimated 6 million Americans have fibromyalgia, most of them women.

**Headaches** affect millions of Americans. The three most common types of chronic headache are migraines, cluster headaches, and tension headaches. Each comes with its own telltale brand of pain.

- **Migraines** are characterized by throbbing pain and sometimes by other symptoms, such as nausea and visual disturbances. Migraines are more frequent in women than men. Stress can trigger a migraine headache, and migraines can also put the sufferer at risk for stroke.
- **Cluster** headaches are characterized by excruciating, piercing pain on one side of the head; they occur more frequently in men than women.
- **Tension headaches** are often described as a tight band around the head.

**Head and facial pain** can be agonizing, whether it results from dental problems or from disorders such as cranial neuralgia, in which one of the nerves in the face, head, or neck is inflamed. Another condition, **trigeminal neuralgia** (also called tic douloureux), affects the largest of the cranial nerves and is characterized by a stabbing, shooting pain.

**Muscle pain** can range from an aching muscle, spasm, or strain, to the severe spasticity that accompanies paralysis. Another disabling syndrome is **fibromyalgia**, a disorder characterized by fatigue, stiffness, joint tenderness, and widespread muscle pain. **Polymyositis, dermatomyositis, and inclusion body myositis** are painful disorders characterized by muscle inflammation. They may be caused by infection or autoimmune dysfunction and are sometimes associated with connective tissue disorders, such as lupus and rheumatoid arthritis.

**Myofascial pain syndromes** affect sensitive areas known as trigger points, located within the body's muscles. Myofascial pain syndromes are sometimes misdiagnosed and can be debilitating.

**Neuropathic Pain** – is a type of pain that results from damage to or dysfunction of the nerves in either the peripheral or central nervous system, rather than stimulation of pain receptors (as is the case of somatic and visceral pain). Neuropathic pain can occur in any part of the body and is frequently described as a hot, burning sensation, which can be devastating to the affected

individual. It can result from diseases that affect nerves (such as diabetes) or from trauma, or, because chemotherapy drugs can affect nerves, it can be a consequence of cancer treatment. Among the many neuropathic pain conditions are:

- **Diabetic neuropathy**, which results from nerve damage secondary to vascular problems that occur with diabetes;
- **Reflex sympathetic dystrophy syndrome** (see below), which can follow injury;
- **Phantom limb** and **post-amputation pain**, which can result from the surgical removal of a limb;
- **Postherpetic neuralgia**, which can occur after an outbreak of shingles; and
- **Central pain syndrome**, which can result from trauma to the brain or spinal cord.

**Nociceptive pain** - caused by an injury that stimulates pain receptors. Pain receptors, located on the tips of nerve cells, recognize and react to an unpleasant stimulus (pressure, extreme temperatures [hot or cold], substances released by other cells) and send pain signals through the nervous system for recognition and response. This type of pain may be accompanied by inflammation. Infections, burns, cuts, a severe lack of oxygen in the blood, and stretching of or pressure within an organ, can injure tissues and cause nociceptive pain.

#### *Types of Nociceptive Pain:*

- **Somatic Pain** - caused by injury to skin, muscles, bone, joint, and connective tissues. Deep somatic pain is usually described as dull or aching, and localized in one area. Somatic pain from injury to the skin or the tissues just below it often is sharper and may have a burning or pricking quality.
- **Visceral Pain** - originates from ongoing injury to the internal organs or the tissues that support them. When the injured tissue is a hollow structure, like the intestine or the gall bladder, the pain often is poorly localized and feels like cramping. When the injured structure is not a hollow organ, the pain may be pressure-like, deep, and stabbing.

**Pain flares.** Pain that suddenly erupts or emerges with or without an aggravating event or activity.

**Peripheral Neuropathic Pain** due to vascular disease or injury—such as vasculitis or inflammation of blood vessels, coronary artery disease, and circulatory problems—all have the potential to cause pain. Vascular pain affects millions of Americans and occurs when communication between blood vessels and nerves is interrupted. Ruptures, spasms, constriction, or obstruction of blood vessels, as well as a condition called ischemia in which blood supply to organs, tissues, or limbs is cut off, can also result in pain.

**Reflex sympathetic dystrophy syndrome** — see Complex Regional Pain Syndrome.

**Repetitive stress injuries** are muscular conditions that result from repeated motions performed in the course of normal work or other daily activities. They include:

- writer's cramp, which affects musicians and writers and others,
- compression or entrapment neuropathies, including carpal tunnel syndrome, caused by chronic overextension of the wrist and
- tendonitis or tenosynovitis, affecting one or more tendons.

**Sciatica** is a painful condition caused by pressure on the sciatic nerve, the main nerve that branches off the spinal cord and continues down into the thighs, legs, ankles, and feet. Sciatica is characterized by pain in the buttocks and can be caused by a number of factors. Exertion, obesity, and poor posture can all cause pressure on the sciatic nerve. One common cause of sciatica is a herniated disc.

**Shingles and other painful disorders** affect the skin. Pain is a common symptom of many skin disorders, even the most common rashes. One of the most vexing neurological disorders is shingles or herpes zoster, an infection that often causes agonizing pain resistant to treatment. Prompt treatment with antiviral agents is important to arrest the infection, which if prolonged can result in an associated condition known as **postherpetic neuralgia**. Other painful disorders affecting the skin include:

- **Vasculitis**, or inflammation of blood vessels;
- Other infections, including **herpes simplex**;
- Skin **tumors** and **cysts**, and

Tumors associated with **neurofibromatosis**, a neurogenetic disorder.

**Somatic pain**—see Nociceptive Pain.

**Sports injuries** are common. Sprains, strains, bruises, dislocations, and fractures are all well-known words in the language of sports. Pain is another. In extreme cases, sports injuries can take the form of costly and painful spinal cord and head injuries, which cause severe suffering and disability.

**Spinal stenosis** refers to a narrowing of the canal surrounding the spinal cord. The condition occurs naturally with aging. Spinal stenosis causes weakness in the legs and leg pain usually felt while the person is standing up and often relieved by sitting down.

**Surgical pain** may require regional or general anesthesia during the procedure and medications to control discomfort following the operation. Control of pain associated with surgery includes presurgical preparation and careful monitoring of the patient during and after the procedure.

**Temporomandibular disorders** are conditions in which the temporomandibular joint (the jaw) is damaged and/or the muscles used for chewing and talking become stressed, causing pain. The condition may be the result of a number of factors, such as an injury to the jaw or joint misalignment, and may give rise to a variety of symptoms, most commonly pain in the jaw, face, and/or neck muscles. Physicians reach a diagnosis by listening to the patient's description of the symptoms and by performing a simple examination of the facial muscles and the temporomandibular joint.

**Traumatic pain** can occur after injuries in the home, at the workplace, during sports activities, or on the road. Any of these injuries can result in severe disability and pain. Some patients who have had an injury to the spinal cord experience intense pain ranging from tingling to burning and, commonly, both. Such patients are sensitive to hot and cold temperatures and touch. For these individuals, a touch can be perceived as intense burning, indicating abnormal signals relayed to and from the brain. This condition is called **central pain syndrome** or, if the damage is in the thalamus (the brain's center for processing bodily sensations), **thalamic pain syndrome**. It affects as many as 100,000 Americans with multiple sclerosis, Parkinson's disease, amputated limbs, spinal cord injuries, and stroke. Their pain is severe and is extremely difficult to treat effectively. A variety of medications, including analgesics, antidepressants, anticonvulsants, and electrical stimulation, are options available to central pain patients.

**Visceral pain** – see Nociceptive Pain.

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# Pain Resources



## American Pain Foundation

888-615-7246

[www.painfoundation.org](http://www.painfoundation.org)

### Key Publications

- *Pain Community News*, APF's quarterly newsletter
- *Pain Monitor*, APF's monthly e-news update
- *Treatment Options: A Guide for People Living with Pain*
- *Pain Resource Guide: Getting the Help You Need*
- *Targeting Chronic Pain Notebook* and companion provider resources
- APF Report, *Provider Prescribing Patterns and Perceptions: Identifying Solutions to Build Consensus on Opioid Use in Pain Management*
- Fact sheets on cancer pain, shingles/PHN, fibromyalgia, military/veterans and pain, among others
- Top 10 Tips Series, including:
  - Finding Quality Health Information Online
  - Exercising for Pain Relief
  - Making the Most of Your Medical Visits
  - Easing Pain Around the Holidays
  - Pain-free Tips for Travelers
  - Helpful Hints on the Road to Pain Relief
- Pain Care Bill of Rights

### Special Projects/Initiatives

- APF's grassroots **Power Over Pain Action Network** (POPAN) has 72 POPAN leaders in 36 states tirelessly working to help improve pain care, legislation related to pain care, healthcare access and medical practices.
- **Military and Veterans Pain Initiative**
- **Spotlight Series** on cancer pain, fibromyalgia and shingles
- **Pain & Creativity**
- **Yoga for Chronic Pain**
- **Let's Talk Pain** Coalition, [www.letstalkpain.org](http://www.letstalkpain.org), launched in partnership with the American Academy of Pain Management and the American Society for Pain Management Nursing

For more information about APF's programs and services, see the 2007 Annual Report at <http://www.painfoundation.org/About/2007AnnualReport.pdf>

To subscribe to print or online publications, please visit [www.painfoundation.org](http://www.painfoundation.org), or call Tina Register, Communications Manager, at (443) 690-4707 or [tregister@painfoundation.org](mailto:tregister@painfoundation.org)

## Other Consumer Pain Associations

### **American Chronic Pain Association**

800-533-3231  
[www.theacpa.org](http://www.theacpa.org)

### **National Pain Foundation**

303-783-8899  
[www.nationalpainfoundation.org](http://www.nationalpainfoundation.org)

## Condition-Specific Pain Organizations

The American Pain Foundation keeps an updated and searchable listing of condition-specific patient advocacy and professional organizations at [www.painfoundation.org](http://www.painfoundation.org). These include such groups as the Amputee Coalition of America, Arthritis Foundation, the National Vulvodynia Association, National Fibromyalgia Association and the American Diabetes Association, among others.

## Professional Pain Associations

### **Alliance of State Pain Initiatives**

608-262-0978  
E-mail: [aspi@mailplus.wisc.edu](mailto:aspi@mailplus.wisc.edu)

### **American Academy Hospice and Palliative Medicine**

847-375-4712  
[www.aahpm.org](http://www.aahpm.org)

### **American Academy of Pain Management**

209-533-9744  
[www.aapainmanage.org](http://www.aapainmanage.org)

### **American Academy of Pain Medicine**

847-375-4731  
[www.painmed.org](http://www.painmed.org)

### **American Pain Society**

847-375-4715  
[www.ampainsoc.org](http://www.ampainsoc.org)

### **American Society of Addiction Medicine**

301-656-3920  
[www.asam.org](http://www.asam.org)

### **American Society for Pain Management Nursing**

913-895-4606  
[www.aspmn.org](http://www.aspmn.org)

### **National Hospice & Palliative Care Organization**

703-837-1500  
[www.nhpco.org](http://www.nhpco.org)

## Other organizations

### **Pain Policy Studies**

#### **Pain and Policy Studies Group (PPSG)**

608-263-7662  
[www.painpolicy.wisc.edu](http://www.painpolicy.wisc.edu)

### **Pain Law Studies**

#### **Pain and the Law**

617-262-4990  
[www.painandthelaw.org](http://www.painandthelaw.org)

#### **The Legal Side of Pain**

865-560-1945  
[www.legalsideofpain.com](http://www.legalsideofpain.com)

#### **National Association of Attorneys General**

[www.naag.org](http://www.naag.org)

### **Drug Abuse/Addiction Groups**

#### **National Institute on Drug Abuse**

301-443-1124  
[www.nida.nih.gov](http://www.nida.nih.gov)

#### **Drug Enforcement Administration**

**Office of Diversion Control**  
800-882-9539  
[www.dea.diversion.usdoj.gov](http://www.dea.diversion.usdoj.gov)

#### **Partnership for a Drug-Free America**

212-922-1560  
<http://drugfreeamerica.com>

#### **Substance Abuse and Mental Health Services Administration (SAMHSA)**

877-726-4727  
[www.samhsa.gov](http://www.samhsa.gov)

#### **White House Office of National Drug Control Policy**

800-666-3332  
[www.whitehousedrugpolicy.gov](http://www.whitehousedrugpolicy.gov)

### **Others**

#### **Center for Practical Bioethics**

800-344-3829  
[www.practicalbioethics.org](http://www.practicalbioethics.org)

#### **Federation of State Medical Boards (FSMB)**

817-868-4000  
[www.fsmb.org](http://www.fsmb.org)

#### **National Family Caregivers Association**

301-942-6430  
[www.nfcacares.org](http://www.nfcacares.org)



*“Pain is inevitable. Suffering is optional.”*

*—Anonymous*





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